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ABSTRACT

Access to information about rehabilitation has traditionally been limited by the undefined scope of the field and by the lack of a central clearinghouse for rehabilitation information. A study was conducted to examine the feasibility of establishing a national rehabilitation resource center to improve the delivery of information. The study attempted to identify: (1) potential users; (2) the type of information materials that were needed; (3) the best storage and retrieval system; (4) the best location; (5) costs; and (6) methods to increase the effectiveness of existing materials. Employing a literature search, interviews, and think tank techniques, researchers first surveyed the state of existing rehabilitation information and then delineated what informational needs were unmet. The study recommended the formalizing of a rehabilitation information network with a national center to serve as a catalyst and coordinator. The appendixes contain bibliographic references and details concerning the interviews and workshops that were held. (EMH)

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REHABILITATION RESEARCH AND TRAINING CENTER
THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D. C.

A FEASIBILITY STUDY FOR A NATIONAL REHABILITATION INFORMATION CENTER

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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FINAL REPORT OF THE MULTIMEDIA REHABILITATION RESOURCES PROJECT, RSA16-P-56803/3-11

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I. EXECUTIVE SUMMARY

The present report discusses the feasibility of establishing a rehabilitation resource center to provide information to people with an interest in the field. It outlines the findings of an investigation to determine what can be done effectively and economically at the national level to improve information service in regard to rehabilitation. Consideration was given to questions concerning what services a national center could most effectively provide, for whom, what collections and equipment it ought to include, how the information stored within it might be arranged for retrieval and dissemination in order best to promote ultimate utilization, and what costs would be associated with establishment. Attention was also given to the question of how existing related information resources could be made more effective.

In order to arrive at answers to these questions, the project team attempted to match rehabilitation information needs with existing information resources in order to determine what needs were not currently being met. From these unmet needs it selected those which were most appropriately served on the national level as the basis for the recommendations.

The principal unmet needs which emerged from the study were of two kinds: 1) needs for specific direct, personal services not currently provided to certain user groups, and 2) needs for general improvements in the current pattern of information delivery. Recommendations are made in response to both types.

The major recommendation of this report is the establishment of a National Rehabilitation Information Center (NARIC) to include materials in all media. The Center would be a grant or contract activity located in Washington, D. C. In response to identified needs for direct services, the project suggests three to be undertaken initially. It is recommended that the National Center:

1) assemble, maintain, and provide access to a definitive collection of RSA-generated materials to anyone requesting them;

2) provide a rapid, fact-retrieval service for rehabilitation administrators at all levels of government and in the private sector;

3) develop information products custom tailored to the needs of Washington-based RSA administrators, with a view to subsequent repackaging to reach a wider public.

The user group proposed for each of these services decreases in size in direct proportion to the degree to which the service is personalized, because the necessity for interaction between user and service provider, and the time requirements involved, increase accordingly.

In response to the need for improvement in the existing pattern of information delivery, the report further recommends that RSA encourage the formalization of a Rehabilitation Information Network composed of information facilities which it currently funds. The National Center would be charged with the task of organizing the Network and coördinating its ongoing activities. Network objectives would include:

1) coördination of existing services,
2) continuous identification of unmet information needs,
3) promotion of user awareness,
4) improvement of information skills.

The combination of Center and Network is designed to provide some degree of benefit to every member of the rehabilitation community. Access to the Center's collections would be assured to everyone, from the most highly skilled researcher to the grammar school student writing a paper. Practitioners and handicapped individuals would benefit, in addition, primarily through improvements in localized information service expected to result from activities of the Network. Administrators would receive certain more specialized services: fact-retrieval (which would be extended, over time, to other categories of user) and custom-product development. The information products generated under this custom program, in response to expressed needs of RSA officials, would be repackaged to make them useful, as well, to practitioners, researchers, handicapped individuals, or the public at large.

As a further step towards improving information delivery, it is recommended that RSA acknowledge information service as a legitimate support activity and that future planning provide for a greater degree of stability and continuity from the user's point of view. Moreover, in order to maximize RSA's current investment in the development of information materials, it is recommended that adequate funding be provided to allow for dissemination of information products developed under RSA auspices to all who can benefit from them.

It is further recommended that a close working relationship be established between the proposed Center and the Clearinghouse for Handicapped Individuals to ensure the development of complementary and mutually supportive programs. Policies are also stipulated encouraging employment of the handicapped and assurance of physical access for them to the Center.

It is estimated that direct costs associated with Center and Network activities would be $241,000 in the first year of operation. Projected

expansion of services could bring annual costs to $612,000 by the fifth year. The Center is expected to require physical facilities offering approximately 4,000 square feet of floor space.

II. BACKGROUND OF THE STUDY

II.1. The Information Problem

The rehabilitation profession, along with other professions and disciplines, is faced with the present-day phenomenon commonly referred to as the "information explosion." Much has been said about this explosion. Researchers have established that the number of print materials alone doubles every 10-15 years and grows exponentially (Price, p. 6; see Appendix A for full citations to references cited in the text). Computers with trillion bit memories and instant recall extend the store of information available. Telecommunication brings information instantaneously to millions. It is easy to conclude from all this that the information problem today is more a problem of superabundance than of lack.

However, the essence of the information problem has always been, and remains, how to get people to use information that would increase their effectiveness in their work. The object of information service is to get relevant information used. Making information available is a necessary, but not sufficient, step towards achieving this objective. Information utilization requires that the individual perceive his need for information, that it be provided to him in a timely manner, that the information be packaged in a suitable medium, and sometimes, that assistance be provided in demonstrating the application of the information.

Although the information explosion is not unique to rehabilitation, information service in the rehabilitation field is further complicated by a combination of characteristics specific to the rehabilitation professions. In the first place, there is no single rehabilitation discipline. Rather, rehabilitation work tends to be cross-disciplinary and characterized by a diversity of clientele and professional functions. Rehabilitation services are provided to the blind, the deaf, the physically handicapped, the developmentally disabled, drug abusers, alcoholics, the emotionally disturbed, and to severely disabled people with varied combinations of impairments. Rehabilitation professionals are educated in varying disciplines, such as medicine, physiology, education, engineering, law, and vocational guidance. Moreover, these same individuals are involved in widely varying activities, including patient care, pure and applied research, university teaching, training of handicapped individuals, program development, counseling and placement, policy planning, legislative development, and client advocacy. Consequently, the information needs of the rehabilitation community are widely diverse with respect to both subject and format.

Today, an individual seeking rehabilitation-related information is confronted by a bewildering array of possible sources, each with its

limited subject scope and conventions of use. Since there is no central repository of rehabilitation documents, the process of locating relevant material is often a hit-or-miss affair which discourages all but the most persistent. In many cases information is provided too late to prove useful. Moreover, it may be expressed in langauge incomprehensible to the person who needs it, or it may be presented in a format or packaged in a medium unsuited to his requirements. Thus information with direct potential for assisting handicapped individuals goes unused. The information is there, but adequate service is lacking.

The present study arose from a recognition of these conditions. It seeks to answer the question: How can information delivery to the rehabilitation community be improved, towards the ultimate goal of increasing the effectiveness of the rehabilitation programs which serve the physically and socially disabled citizens of the nation? The following sections define its specific objectives and methodology.

II.2. Objectives of the Study

The project staff was asked to examine the feasibility of establishing a national rehabilitation resource center in order to effect improvements in the current pattern of rehabilitation information delivery. (The memorandum from RSA defining the problem appears as Appendix B of this report.) As in any feasibility study, the question was not *whether* establishment of a national resource center would be feasible (for that answer, in the abstract, is usually affirmative) but rather, *what* would be feasible given limited financial resources, and more specifically, what can be done most effectively at the national level and what can be better accomplished by others? Assuming that the ultimate goal of an information center in this field would be to improve rehabilitation services by promoting the utilization of relevant information, the essential questions to be answered were:

1) Who can most effectively be served by a national center and what services should be provided?

   To answer this question, it is necessary to identify the information needs of all potential users, to determine which are not currently met, and to select from unmet needs those to which a national center can most effectively respond. An information facility which attempts to serve equally all segments of a large and diverse clientele, ends up serving no single group satisfactorily. The selection and precise definition of those services which can most effectively be offered is basic to providing service of high quality.

2) What "software" and "hardware" would a national center require?

What materials, print and nonprint, would be necessary to provide the services determined appropriate for a national center? What is the anticipated volume in each medium? To answer these questions, one must become familiar with the range of existing relevant materials and determine which are most appropriate to the activities anticipated. The software content of the center and the services previously selected for provision, in turn, determine requirements for equipment (the hardware) and physical facilities.

3) What is the best system for storing, retrieving, and disseminating rehabilitation information?

This question can be addressed only after determination of the appropriate services and the necessary software. The storage, retrieval, and dissemination of information occurs at two levels: physical materials (books, reports, films) or facts (data contained within the materials). While the mechanized storage and retrieval of citations by author, title, or subject is common today, techniques for retrieval of information contained within documents are not yet highly developed. Both require a substantial investment of resources. The application of technology should be considered only where it is essential in achieving stated objectives.

4) Where should the center be located and how should it be structured?

Ideally, resource centers should be located close to the clienteles they serve. However, with modern technology, geographic proximity is not an absolutely essential factor. A widely dispersed user group may make physical proximity an impossibility. There may be cost advantages in a location which builds upon existing information facilities at some distance from one's clientele. The pros and cons of alternative locations must be enumerated for consideration.

5) What costs would be incurred in establishment of a national center?

Anticipated expenses associated with provision of the selected services should be estimated for consideration in the light of the benefits to be derived. Determination

of staffing requirements, necessary materials and equipment, must precede discussion of costs. Cost factors associated with alternative locations should be set out for consideration.

6) How can existing related information resources be made more effective?

Since in a country as large as ours and a field as diverse as rehabilitation, no single facility can expect to be all-serving and all-encompassing, and since significant rehabilitation information resources are known to exist, the question becomes how to tap these resources systematically in order to minimize duplication and improve overall service. Relationships between the proposed national center and existing related information facilities should be defined. Familiarization with the services currently provided by existing resources and the factors which affect their operations is requisite to determination of pathways to improvement.

The questions discussed above defined the specific objectives of this study. What follows is a brief description of the approach taken to answer them.

II.3. Technical Approach

The first task undertaken by the project team was a literature search which:

- established relevant previous research particularly about information needs within rehabilitation,
- identified major existing information resources within and outside of rehabilitation,
- identified related projects and studies such as the Planning Study for a National Information Centre for the Rehabilitation of the Physically Disabled in Canada,
- identified innovative models of information delivery which may be applicable to rehabilitation,
- identified key rehabilitation personnel involved with information delivery.

A tentative model for a national rehabilitation resource center was built on the basis of insights gained from the literature. Basically, the approach taken was to periodically revise this model as more information became available until it evolved into its final form in this report.

A series of structured interviews was conducted with a cross-section of potential users of a national center. (A sample of the interview guide, with a summary of data collected, constitute Appendix C of this report.) Many of the initial interviewees were suggested by the contract monitors for this study. Others were identified through organizational charts. Those interviewed were asked to suggest the names of other potential interviewees for staff consideration. The structured interviews sought to establish the information-seeking habits of those interviewed, the sources of information which they currently found to be effective, and information services or products they would like to see become available. Additional data on habits, opinions, and desired services were obtained through a series of meetings with other potential users.

In order to ensure representation in the sample of potential users from various segments of the field, a list of user categories was set up. Included among potential users interviewed were personnel from the RSA Washington and regional offices and other Federal bodies such as the Office for Handicapped Individuals and the President's Committee on Mental Retardation; personnel with State agencies, including vocational counselors, research utilization specialists, and training officers; individuals affiliated with RSA-funded research and training centers; and representatives from the private sector with organizations such as American Foundation for the Blind, Goodwill, National Easter Seal, and the National Rehabilitation Association.

While some of the individuals interviewed were handicapped, their views were solicited in their capacity as members of the professional rehabilitation community and not as clients of rehabilitation services. Representatives of the public at large were not interviewed. However, the information needs of the handicapped and the general public were addressed through the literature and in discussions with interviewees and consultants, and they are incorporated in the recommendations of the study.

Table 1 shows the categories of potential users contacted and the number of individuals from each category who were interviewed or who participated in meetings with project staff.

TABLE 1

NUMBER OF INTERVIEWS AND MEETINGS WITH POTENTIAL USERS

	NUMBER		
	Structured Interviews	*Participants in Meetings*	*Total*
RSA and other Federal and regional administrators	23	15	38
State agency personnel	15	25	40
Special center personnel	19	8	27
Private sector	7	13	20
	64	61	125

Although the number of interviews with potential users was not large, the findings, in terms of information needs, were consistent within each segment of the community. Moreover, they were generally found to confirm findings reported in the literature.

Concurrent with the user interviews, existing sources of rehabilitation information, such as the Easter Seal Library, were visited or contacted by telephone to supplement what could be learned about them from the literature. This survey of resources sought to establish who was being served by each source and what services were being provided. In addition, data were collected to establish some benchmarks in respect to funding requirements, staff size, and the composition and size of collections. Discussions were also conducted with personnel from related projects, such as the Clearinghouse for the Handicapped, in an attempt to assess the likelihood of overlap of proposed services and possible future relationships.

Another data-collection method used was a think-tank or brainstorming session to which some of the key information providers in rehabilitation were invited. (A list of attendees is provided in Appendix D.) The purpose of this working session was to verify the model after it had been revised on the basis of interview findings. Additional insights gained at this session were incorporated in the final draft of the model as reflected in the recommendations of this report.

The findings from the various sources described above were synthesized in terms of the information needs of five potential user groups: administrators, practitioners, researchers, consumers, and the general public. (An Information Needs Profile was outlined for each category and is given in Section III.1 which follows.) Another group of findings relates to existing sources of rehabilitation information and the extent to

which these sources meet expressed needs (see Section III.2. Information Resources Profile). Finally, needs were matched with existing resources and the gaps between what is needed and what is available were thus identified. From the resulting list of unmet needs, those which could most effectively be met at the national level were selected for incorporation in the recommendations concerning services to be provided by a national center.

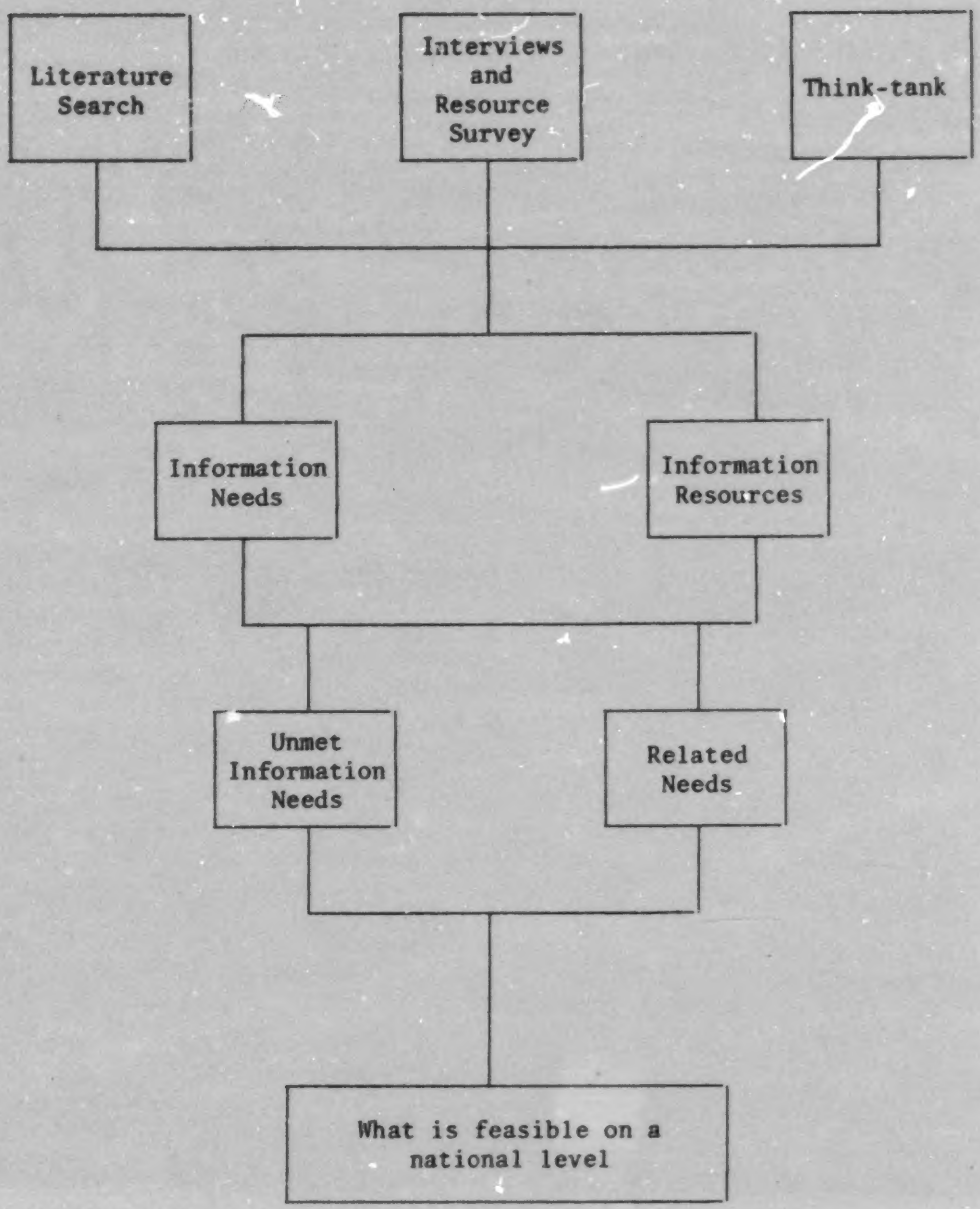
In the course of the investigation, certain related needs were also identified. These were not for direct personal services, nor were they specific to any particular user group. Rather, they had to do with the general pattern of information provision in the rehabilitation field. The findings in regard to these related needs are discussed in Section IV.2 and consideration as to what could be done to meet them formed the basis for additional recommendations.

Service programs were designed to meet those needs selected as appropriately addressed at the national level, and implementation requirements based on the recommended programs were defined.

An overview of the technical approach is shown in Figure 1.

FIGURE 1

OVERVIEW OF TECHNICAL APPROACH



III. FINDINGS

The findings of the study are presented in three parts. The first part describes the types of information needed by the potential user groups, their information-seeking habits, and the services they would find useful. This is followed by a description of existing resources, the services they provide, and their users. Unmet information needs, identified by matching user needs with existing services, are then enumerated.

III.1. Information Needs Profile

The information needs identified here are derived primarily from the structured interview guide supplemented by findings from other studies. Information needs are described in terms of the needs of administrators, practitioners, researchers, handicapped individuals, and the general public. It should be noted that individuals engaged in administration, practice, or research frequently played mixed roles. For example, an interviewee with administrative duties might also be engaged in research and teaching, and have different information needs and sources to support each function.

Certain overall patterns which emerged in the habits and needs of the three groups of rehabilitation professionals should be mentioned before the data specific to each group are presented. First, and most obviously, print materials (as opposed to film, tapes, and other nonprint media) and conversation were the two primary means identified of receiving work-related information. Interviewees indicated slightly higher usage of print materials; however, other studies such as Muthard (p. 16) and Glaser (p. 438) show that conversation with colleagues and other professionals is generally a more frequent source of information than print. In either case, the role which personal communication plays in receiving and giving important information should not be underestimated.

A related trend, which in some ways corroborates the importance of conversation, is that, with one or two notable exceptions cited later, comparatively few of those in our interview sample actually used what might be considered major existing resources.

III.1.1. Administrators

Managers or supervisors in both the public and private sector work under the considerable pressure of deadlines. They have limited, if any, time to gather information to assist them in the decisionmaking process.

Frequently they rely on their own expertise or on that of other accessible individuals. In addition to requiring data about the functions of their own organization (*i.e.*, management information) administrators generally want to be able to get current, reliable information about what other organizations, agencies, and individuals are doing and what resources are available. They need hard data, sometimes summarized in brief descriptive papers, or other services to assist them in keeping up with relevant current developments in rehabilitation and related fields. Services most frequently cited as desirable were:

- a telephone fact-retrieval or quick-answer service which would provide statistics and other data;
- conferences and meetings on current developments and new technology [desired by State personnel in particular (Muthard, p. 26)];
- state-of-the-art summaries; *i.e.*, "simple descriptive summaries in lay terms of research and progress in various areas of rehabilitation" and related fields (interview);
- "brief, readable, and relevant reports on topics of current interest to the rehabilitation community" (Muthard, p. 26);
- abstracts, obtainable on request, of relevant selected documents;
- access to existing documents [a frequent complaint was that copies of cited articles or documents often could not be obtained; this was especially true of RSA-generated materials which this group desired];
- current lists of experts and centers of expertise.

III.1.2. Practitioners

Individuals involved in such "front-line" activities as counseling, training, placement, and treatment have heavy caseloads and little time to read relevant professional literature (Muthard, p. 3). Nonetheless, they need to keep abreast of current developments in rehabilitation and to update or upgrade their skills. They want to know what is being done elsewhere and how effective it is. Practitioners require practical information materials to be utilized in their work. They also need technical assistance or "how-to-do-it" guidance in implementing new procedures and programs. Examples of desired services are:

- a telephone referral service to aid in referring clients to available local resources and services;
- access to experts willing to be contacted by phone;
- a master catalog of available rehabilitation-related films, slides, tapes, etc.;
- authoritative, evaluative reviews of new devices and techniques;
- workshops on new procedures and developments;
- packaged "how-to-do-it kits," possibly incorporating tape cassettes, slides, or other audiovisual materials, to aid in implementing new procedures and developments.

III.1.3. Researchers

Here the term researcher is used broadly and includes personnel, such as educators, affiliated with RSA-funded centers conducting medical or nonmedical research. Despite differences in the subject matter of the work of individuals interviewed, there were definite similarities in their information needs and habits. They usually had access to and used a university library. Although their schedules were frequently as harried as those of administrators or practitioners - and, indeed, there are individuals who combine all three functions - their work as researcher or educator was more oriented to seeking and using published information. Research personnel wanted the following information services, listed here in priority order:

- abstracts and bibliographies on request [These were regarded as highly useful tools. A majority felt strongly that they were most useful when obtained on request; materials of this type received on a recurring basis are apparently "lost in the shuffle."];
- state-of-the-art reports; *i.e.*, authoritative essays summarizing current developments and publications in a particular field;
- access to copies of published documents, such as current journals, monographs, or research reports;
- master catalog of available rehabilitation films, slides, tapes, etc.

III.1.4. Handicapped Individuals

Handicapped individuals and their families need "assistive devices to aid [their] physical well being, legislative information, knowledge of special educational programs, travel information to aid [them] in surmounting ever present architectural barriers, and vocational counseling . . . ." (Velleman, p. 2971) They want to know where they can receive services and they need to gain further understanding of the conditions which affect them. Such information is frequently sought from a counselor, a local library, a service agency, a branch of one of the national private associations serving the handicapped, or in some cases from a clearinghouse such as that operated for ERIC by the Council for Exceptional Children.

III.1.5. The General Public

The public at large, including students, employers of the handicapped, and other concerned citizens, needs background on various aspects of rehabilitation and the effectiveness of existing programs (Havelock, p. 5). Some professionals interviewed expressed the opinion that the public should be made more aware of problems and issues concerning the handicapped. One suggested means, already being used, is through "60 second spots" on television or radio, to focus public attention on problems in the field and hopefully to bring about an attitudinal, or even, behavioral change.

III.2. Information Resources Profile

What is an information resource? The term can refer to a human resource: a consultant or colleague willing to give advice, a counselor who aids a client in obtaining a needed service or device. It can refer to a material resource, such as a book, film, microfiche, or computerized data base. Both human and material resources are major links in the information chain. The term "information resource" can also refer to a physical facility or organizational resource specializing in providing information service. Organizational resources include libraries, clearinghouses, and special centers. There are many such resources offering information relevant to rehabilitation - some currently funded by RSA, others supported by other public or private organizations. What are they, what services do they provide, and whom do they serve? Because this report pertains to RSA activities, information facilities are here grouped in terms of whether or not RSA supports their operation.

III.2.1. Non-RSA Information Resources

Libraries of large size and scope, such as the National Library of Medicine (NLM), university libraries, or medical libraries, serve primarily those, like researchers and educators, who desire access to published or "open" literature. ("Open literature" here refers to widely available materials, print or nonprint, published by commercial presses and generally included in standard bibliographies and indexes. Literature not commercially published or issued in pamphlet or leaflet form is referred to as "ephemeral.") In some States, State vocational rehabilitation agency libraries offer collections and various information services to their personnel. Specialized libraries, such as the Human Resources Center Rehabilitation Research Library in Albertson, Long Island, serve small segments of the handicapped, as well as the professional and the public, with files of ephemeral materials and collections of published documents. A nationwide network of libraries, coordinated by the Library of Congress Division for the Blind and Physically Handicapped, serves the handicapped population directly with materials in formats, such as talking book, specially designed for them.

A major library, which serves RSA in particular, is the HEW library. Nearly all of the RSA personnel interviewed used this library; however, a majority were not satisfied with it. Comments reflected a dissatisfaction with the quantity, currency, relevance, and organization of the literature on rehabilitation and cited the difficulty of physical access to the handicapped individual.

Highly specialized clearinghouses, such as those on alcohol or drug abuse, and commercial information services, produce bibliographies and abstracts of materials on specialized topics, available on request or by regular distribution. Users of such services are most often researchers, educators, or other information services. Other, more comprehensive clearinghouse operations, such as the Educational Resources Information Center (ERIC) system, make copies of the documents cited in their bibliographies available. The National Technical Information Service (NTIS) provides copies, on request, of Government research reports not generally found in the open literature. Another clearinghouse, the developing Clearinghouse for the Handicapped, will provide referral from its data bank on available information services for and about the handicapped. The Statewide Computerized Referral Information Program (SCRIPS) in New Jersey is an example of a more localized attempt to provide effective referral of handicapped clients to services and resources.

In the study, all interviewees were asked whether they used and were satisfied with certain existing major libraries and clearinghouses such as NLM, ERIC, Medline, NTIS, and the HEW library. With the following

exceptions, most interviewees did not make use of these facilities. Researchers did heavily use Medline and their university medical libraries; nearly all RSA administrators used the HEW library. Both groups, however, expressed a criticism that these collections were not oriented towards rehabilitation and therefore did not fully meet users' needs for materials and information.

NTIS, in particular, received heavy criticism. RSA R&D final reports are stored in NTIS to make them available to potential users. The study showed, however, that:

- NTIS is not well-known to rehabilitation practitioners or to many administrators;
- its charges for both microfiche and hard copy are considered by some to be excessive;
- the time lag between a request and receipt of a copy is frequently four weeks or more, which is considered by many to render the service ineffective;
- and most significantly, the service cannot meet requests at all for certain items supposedly held in its system. Documents deposited in the system are not always retrievable due to indexing or other problems.

Private associations, especially those which include libraries, offer comprehensive collections on their particular subjects and a variety of other services to users. National Easter Seal in Chicago, for example, in addition to housing a major collection relevant to rehabilitation, provides bibliographies, educational packets, a bulletin, practical manuals, and search services. Other associations, such as the National Rehabilitation Association, also provide newsletters, journals, bibliographies, and related services. In cases such as Easter Seal, services offered are generally available to the handicapped individual and the public, as well as to the rehabilitation professional. Other private groups restrict services to only their membership. Private groups also promote their particular concerns to the public to raise awareness of problems and needed improvements and to encourage attitudinal changes.

Government commissions and special Federal agencies also undertake information service. The President's Committee on Employment of the Handicapped and the Commission on Barrier Free Design, for example, disseminate printed materials on their concerns and work actively to foster awareness and coöperation in the public.

III.2.2. RSA-Supported Information Facilities

RSA itself supports a variety of special centers and projects which provide information, and in many cases, actually develop valuable information materials on a specific topic, frequently for a restricted user group. One of these is the Materials Development Center (University of Wisconsin - Stout) which provides information services centered on work adjustment and evaluation primarily to State VR facility specialists and rehabilitation facilities treating State-sponsored clients. Another is the Research Utilization Laboratory at the Institute for the Crippled and Disabled in New York City (ICD/RUL) which has produced a variety of materials and workshops on vocational rehabilitation of public assistance clients for the practitioner. The Oklahoma State Clearinghouse for Rehabilitation offers selected bibliographies and materials on vocational counseling for rehabilitation practitioners.

For the research community, there are highly technical information programs, such as the rehabilitation engineering project conducted by the National Academy of Sciences Committee on Prosthetics Research and Development, which arranges major conferences for the exchange of ideas and produces an annual state-of-the-art report. Other projects have produced such useful products as newsletters (the now defunct *Informer*, Medical R & T Center, George Washington University, for example), directories of consultants and resources (Continuing Education Program for Rehabilitation, State University of New York, Buffalo), indexes to rehabilitation materials (Rehabilitation Research Institute, Gainesville, Florida), and summaries of relevant reports (RSA's own *Research Briefs*, no longer published). Again, like ICD/RUL, other centers (such as the Continuing Education Program for Rehabilitation at Greeley, or the Vocational Rehabilitation Research & Training Center at the University of West Virginia) are producing "how-to" packets and holding workshops for State rehabilitation practitioners and supervisors in a particular region.

Final reports of RSA R&D grantees are stored in the National Technical Information Service (NTIS) and copies are supposed to be readily accessible to the interested user. As has been mentioned, this is seldom the case. Materials generated by other RSA grants or contracts are not housed in any particular center, nor are they disseminated in a consistent manner. Items produced under training grants are usually distributed initially to a specified list of recipients, with the remaining copies made available on a "while-they-last" basis by the responsible institution or, occasionally, through a regional or specialized clearinghouse. Only a comparatively small percentage of such materials are widely advertised in newsletters or bulletins or included in published bibliographies.

Some RSA-sponsored films and filmstrips are deposited with the National Audio Visual Center at Suitland, Maryland, which loans or sells copies

on request. Other rehabilitation-related films and audiovisual materials are available only from one of the numerous R&T centers across the country. There is no central listing or catalog of all RSA-sponsored materials, print and nonprint, nor are there consistent, uniform policies for their storage, dissemination, and use.

A further obstacle to locating materials arises from the fact that many RSA-supported projects have short life spans. Those which endure commonly change focus or topic orientation after several years. Useful materials may thus be lost, and potential users are justifiably discouraged from relying on a particular resource.

RSA maintains in its Washington office two computerized information bases: the Research Grants Information System (RGIS) and a data base on State plans and financial programs. Although these systems have in the past served primarily as internal management tools, their contents could be of legitimate interest to some outside RSA, and there is potential for expanding their usefulness to both RSA administrators and others.

In summary, RSA-funded information centers and projects tend to be topic oriented. They have limited life spans, often corresponding to the duration of a grant. They are subject to change of focus in response to changing national priorities, and they serve restricted groups of rehabilitation professionals, especially practitioners and State supervisors. Their target audience is often determined by geographic location or employer (State vs. private). The materials these facilities handle or produce are likely to be unavailable commercially, and to disappear from view after several years. In spite of these limitations, RSA-funded facilities remain the most significant group of information resources for the rehabilitation community.

Non-RSA information resources funded by private groups and other public agencies tend to handle published literature; provide conventional information tools such as bibliographies, indexes, and abstracts to published literature; are oriented to serve primarily groups other than the rehabilitation practitioner or administrator; and tend to be relatively stable in duration and focus.

The rehabilitation professional and the consumer need various information services; there are existing resources which provide some of these services to some user groups. What then are those needs which are not being met?

III.3. Unmet Information Needs

There are no totally unmet needs, in the sense that some services are available to some users. However, though a resource does indeed exist,

if the potential user is unaware of it or unable or unwilling to use it for whatever reason, then it is not for him a resource. Some of the information services requested by interviewees were actually available to them, but unused because an individual didn't know about a particular resource or how to use it. Those specific resources which emerged as most heavily used were generally either in physical proximity to and closely identified with the individual's organization (HEW library; university medical library) or were comparatively small, specialized, and closely associated with a particular person well-known in the rehabilitation community (MDC, ICD/RUL, Oklahoma State Clearinghouse, West Virginia RT). Both of these findings tend to confirm the importance of the human factor and sense of personal identification in information use.

In addition, a particular service may be available to one user - because of fortuitous geographic location or other circumstance - but unavailable to another with similar needs. This seems particularly true for the handicapped client and for the rehabilitation practitioner. A vocational counselor who works in one HEW region, for example, may not have access to materials potentially relevant to his work that are produced by an RSA-funded project in another region.

Finally, making information available is only one step toward getting information used. By itself, it is inadequate. The process of information utilization requires supplementing availability by repackaging information into suitable media and translating it if necessary. The need for customizing information is one that is common to all the user groups.

There are, however, distinct gaps in the provision of rehabilitation information services. Following is a summary of additional services needed in rehabilitation.

> All groups wanting rehabilitation information need better access to RSA-generated materials, both print and nonprint, as well as to other current rehabilitation-related materials. There presently exists no collection which is equally accessible to all members of the rehabilitation community.
>
> Administrators, who presently receive information from a variety of sources, could be further assisted by a service which would quickly provide them with current facts and statistics. They also need written materials, obtainable on request, which succinctly summarize relevant articles and events of interest to them. These include abstracts, state-of-the-art summaries, and brief reports.
>
> Practitioners are the principal focus of many existing RSA-funded information activities. However, this is an extremely

large, heterogeneous group, and much effort is needed to provide it with high-quality information services effectively and uniformly. Many practitioners still need access to a reliable telephone referral service which would provide information on local resources and services available to their clients. They also need information on current developments which is packaged to suit their particular requirements. Like administrators, they could use abstracts of selected articles and brief, readable reports on topics of interest. Some practitioners need, specifically, master catalogs of available rehabilitation-related audiovisual materials; others want evaluative reviews of new devices and techniques which might assist their clients. In addition, many practitioners need more assistance in the utilization or implementation of information new to them. More workshops on implementing new procedures and more packaged multimedia "how-to-do-it" kits are greatly desired.

Researchers and educators generally have access to creditable collections of published literature in their fields and to a range of information services, such as current bibliographies and abstracts on specific topics. They still need reliable state-of-the-art reports, however, and master catalogs of available audiovisual materials.

Handicapped individuals are served by a number of public and private agencies and by a chain of human resources, including counselors and medical specialists. However, there remains a great need for reliable referral systems which would lead inquirers to available local resources and services.

Although the public still needs to be made more aware of problems of the handicapped, numerous private associations and public commissions are now undertaking that effort.

The findings discussed in this section provide the basis for the recommendations of the study which are described in the following sections.

IV. WHAT IS FEASIBLE ON A NATIONAL LEVEL?

Although it would be helpful to develop information services to meet all of the needs identified in the previous section, it is not feasible for any single facility - even a national center - to do so. It would be extremely difficult, if not impossible, to assemble in one place the variety of specializations and talents required to serve the heterogeneous rehabilitation community. The skills required to cull the general literature for background information on recent progress in eliminating architectural barriers, for example, are very different from those necessary to compile a highly technical status report on research developments in rehabilitation engineering or to convey the implications of such developments to the front-line practitioner in a meaningful fashion. Even assuming unlimited financial backing, the problems of gathering a large staff capable of performing all these tasks would be enormous.

Moreover, the rehabilitation community is dispersed over a wide geographic area, while proximity to the user is an important, and sometimes essential, factor in certain types of information service. Although communications devices, such as teletype, can do much to expedite information delivery, there is absolutely no substitute for personal or telephone contact, with its opportunity for direct and immediate questioning, in ensuring that a user's needs are clearly understood, especially in respect to how he intends to use the information he is requesting, and in explaining what can or cannot be done to help him. In cases where the inquirer may actually need assistance in applying the information he has been given, personal contact becomes even more vital. Unfortunately, telephone linkage across country is a significant cost factor in determining who can be both directly and effectively served by a single facility.

At the same time, local information facilities of various kinds are already performing effectively in many sites across the country. These facilities are staffed by trained personnel and are in a better position than a remote national center to serve the information needs of people situated near them and to provide data on local programs and services of the kind needed, for example, by practitioners or handicapped individuals. In planning for effective information delivery, it is important to consider taking advantage of such centers where they already exist.

It is for reasons such as these that the great national libraries tend to concentrate less on direct service to users and more on assisting in the development of products or mechanisms which can facilitate information delivery at the local level. It is true that they serve users who come to their premises to take advantage of their vast and

comprehensive collections, but in this respect they are no different from many important private or city libraries. What gives them their national character is their provision of leadership in developing information tools such as the National Union Catalog, or in coördinating information provision through such arrangements as the Regional Medical Library Network. It is an interesting historical fact that the national libraries of the United States - the Library of Congress and the National Libraries of Medicine and Agriculture - all grew out of Federal libraries directly serving a specific constituency - the personnel of a Government agency charged with making or applying law and policy on the Federal level. The extension of each of these libraries' objectives to assisting - albeit indirectly - the public at large, was in order to support the mission of the Federal organization served.

Seen in this light, then, what is the proper role for a national rehabilitation information center? What kinds of direct service, in response to specific identified unmet information needs within the rehabilitation community, can it hope to provide effectively? For what user groups? And what can it do to facilitate information provision to groups it cannot directly serve?

IV.1. Unmet Information Needs

In an earlier section, four general categories of unmet information needs emerged: definitive collection of rehabilitation materials, factual response service, interpreted information, and technical assistance. Consideration is given here to whether, or how, they can be met effectively at the national level.

It is the conclusion of this study that it is not only feasible but highly desirable that a multimedia collection of rehabilitation materials be established. RSA has the responsibility to provide access to materials it generates to all with a legitimate need of them, for the investment in developing these materials can be realized only if the materials are used. Copy service would allow nationwide access to the collection which should be open to all who have need of it.

It is also feasible for a national center to provide a fact-retrieval service which provides factual answers from published sources in response to direct inquiries. This fact-retrieval service would tap into a human network of experts in order to extend the store of information available. However, it is *not* feasible for a national information resource center to generate or collect raw data in response to requests.

A fact-retrieval service is more sophisticated than a simple copy service in that it requires an intimate knowledge of both the sources of information and the needs of users. Therefore, this service cannot

be addressed to as large an audience as a copy service can be. It is suggested, therefore, that fact-retrieval service be limited, at least initially, to administrators in support of their planning and policy formation functions. Included in this group are administrators at the Federal, regional, and State levels as well as administrators in the private sector.

The selection of administrators as the initial target group for the fact-retrieval service does not imply that the need of this group is necessarily greater or more legitimate than that of other groups. The selection is based on two factors. First, the needs of administrators are more honogeneous than the needs of practitioners or researchers, making the initial demands on the service somewhat easier to predict. Second, planning and policy-formation functions have indirect but wide impact on the entire field. In this sense, their support has the largest potential for affecting the rehabilitation community at large.

While all the user groups interviewed expressed a need for interpreted and packaged information, a national center cannot and should not attempt to develop information products custom-tailored to the needs of all these groups. Custom products for the handicapped are better developed by those directly involved in providing services to the handicapped, since these are the people most likely to know and understand their information needs. Practitioners have such diverse needs for customized materials that special-focus centers, such as the Materials Development Center, are the most effective mechanism for responding to them. Custom products for researchers require so high a degree of subject specialization that only other experts in the specialty can develop such products. In view of these considerations and the fact that products specially designed for specific groups require close collaboration between user and service-provider, custom service provided by the national center should be initially limited to RSA administrators with possible expansion at a later date to other administrators.

Provision of technical assistance requires close and continuing contact between receiver and provider and an intimate knowledge of the needs and habits of the group to be served. Practitioners constitute the user group most in need of such service, but they are dispersed through many localities and they are best served by individuals who share their background and practical experience. For these reasons, special-focus centers are again in a better position than the proposed national center to provide this particular kind of service.

IT IS THEREFORE THE CONCLUSION AND RECOMMENDATION OF THIS STUDY THAT RSA ESTABLISH THE NATIONAL REHABILITATION INFORMATION CENTER (NARIC) WHICH WOULD SERVE THE REHABILITATION COMMUNITY BY:

- *establishing and providing access to a multimedia rehabilitation collection for anyone with a legitimate need for these materials;*

- *providing a fact-retrieval service, initially for administrators, and acting as a switching-center for other requests;*

- *developing custom products for Washington-based RSA administrators and broadly disseminating these products.*

The service programs of NARIC are further discussed in Section V in terms of what will be provided, for whom, and how.

It should be noted that in determining what services should be provided by NARIC, there was a conscious and deliberate effort to avoid the duplication of existing services. Instead of duplication, NARIC should provide a mechanism for tapping into existing services and using them as resources.

Of particular concern is the potential duplication of services to be provided by the Clearinghouse for the Handicapped. The Clearinghouse has a legal mandate to

> "provide a central clearinghouse for information and resource availability for handicapped individuals through (A) the evaluation of systems within the Department of Health, Education and Welfare, other departments and agencies of the Federal Government, public and private agencies and organizations, and other sources, which provide (i) information and data regarding the location, provision and availability of services and programs for handicapped individuals, regarding research and recent medical and scientific developments bearing on handicapping conditions (and their prevention, amelioration, causes, and cures), and regarding the current numbers of handicapped individuals and their needs, and (ii) any other such relevant information and data which the Secretary deems necessary; and (B) utilizing the results of such evaluation and existing information systems, the development within such Department of a coordinated system of information and data retrieval, which will have the capacity and responsibility to provide general and specific information regarding the information and data referred to in subclause (A) of this clause to the Congress, public and private agencies and organizations, handicapped individuals and their families, professionals in fields serving such individuals, and the general public."

With such a broad concern, the Clearinghouse has decided to limit its initial service to referrals. This means that in response to a request the Clearinghouse will refer the requestor to the source most likely to be able to provide the information requested.

In order to ensure that complementary and mutually supportive services will evolve, *it is recommended that NARIC establish channels of communication with the Clearinghouse*. Other recommendations relative to the relationship with the Clearinghouse are discussed in Section IV.2.

IV.2. Related Needs

In the course of the study certain related needs emerged. These needs are not for specific information services but, rather, arise from problems related to information service delivery in the rehabilitation field.

Many of those interviewed expressed frustration with the instability of RSA-funded information services. RSA thinking has not been oriented towards the provision of information service, and no overall plan has been developed for establishing or coördinating such services. Currently they are supported primarily by research and development and/or training funds although information services are not research, development, or training per se but, rather, are supportive of R&D, training, and service delivery in general. Information services need to be recognized as support activities in their own right, and the proposed national center can assist by providing information that RSA needs for planning. This is not to imply that any specific information facility in existence today should be guaranteed its existence nor that the operation and management of these service facilities remain always in the hands of those who are currently responsible for them. Rather, *it is recommended that information services be continuous and reliable from the point of view of the user as long as these services support RSA's goals and mission and that the funding mechanism reflect the nature of information services as legitimate support activities.*

A second problem has to do with the definition of the scope of services and their users. It is recognized that no single information facility should, or even could, serve with equal effectiveness all segments of the rehabilitation community. However, in some cases funding terms dictate a range of users which limits rather than increases the effectiveness of service facilities. Materials developed at one facility to meet a particular need should be generally available, at least on a current basis, to rehabilitation personnel other than those for which the materials were originally developed. No one with a legitimate need for materials developed with RSA funds should be turned away. *A related recommendation is, therefore, that adequate funding be provided for the dissemination of materials developed by various information facilities supported by RSA to all rehabilitation personnel with a legitimate need for them.*

The above recommendations are made to RSA in order to stabilize information services in rehabilitation and ensure adequate dissemination of materials. What can the national center do about these problems? NARIC cannot solve them by itself, but it can minimize the effects of instability by accepting displaced collections of other RSA-funded centers when their subject focus changes. An example is the ICD/RUL which is currently changing its scope from rehabilitation of public assistance recipients to program evaluation. NARIC can also take the responsibility of providing access to materials developed by various centers on a retrospective basis. However, the actions of NARIC can only alleviate the symptoms. The basic solution lies with how RSA funds information services.

The single most consistently mentioned problem related to information service delivery in rehabilitation is the need for coördinating existing services. Can and should NARIC do anything about this need? The answer is a definite yes. A national center is in a unique position to play a coördinating role and there are significant advantages to be gained by formalizing a network of RSA-funded facilities:

> From the point of view of the user, access to one of the facilities coöperating in the network would provide indirect access to the total resources, human and material, available within the network. For example, a request for information or documents which could not be filled by one member of the network would be referred by mutual agreement to another. Moreover, a network would provide a mechanism for promoting user awareness of the services available.
>
> From the point of view of RSA, the formalization of a network would offer a mechanism for continuous assessment of information needs which provides a basis for planning information services.
>
> From the point of view of network members themselves, each can be strengthened by another. The network can also initiate coöperative activities, such as workshops to demonstrate information service technology, which would benefit the information-providing community directly and the user community indirectly.

THEREFORE, IT IS FURTHER RECOMMENDED THAT THE NATIONAL CENTER ACT AS A CATALYST IN FORMALIZING A REHABILITATION INFORMATION NETWORK OF RCA-SUPPORTED INFORMATION FACILITIES WHICH WOULD:

- *coördinate existing services;*
- *upgrade information delivery skills;*

- *promote user awareness of available resources; and*
- *provide for continuous assessment of information needs.*

Since RSA cannot be expected to influence facilities it does not fund, we propose that only RSA-funded information facilities be members of the formal Network. An exception is the Clearinghouse for the Handicapped. Because of the unique relationship between the Clearinghouse and RSA, it is recommended that the Clearinghouse be invited to join the Network. The members of the Network would have a common goal, giving them a natural basis for coöperation. Each member should be encouraged to establish informal relationships - many already have - with other information providers whose activities relate to rehabilitation even though they do not receive direct RSA support. This would effectively extend the capability of the Network.

The potential members of the Network and its recommended structure and activities are described in Section V.3.

These various recommendations as to what can be done at the national level to improve information service in the rehabilitation field have potential benefits for all categories of user. *Administrators, practitioners, researchers, handicapped individuals,* and the *general public* would all be provided access to the collections of the national center. Materials would be available to them on the premises and copy service would extend materials provision nationwide. *Administrators* would immediately receive the more personalized services described as fact retrieval and custom-product development. Fact-retrieval service would gradually be extended to the other user groups, and the materials developed initially at the request of administrators would be repackaged, wherever possible, for use by *practitioners, the handicapped,* and the *general public. Practitioners* and *the handicapped* would be further served by the improvements to be gained through formalization of a network, for it is through the localized and special-focus centers which would comprise such a network that their direct needs can most effectively be met.

V. THE NATIONAL REHABILITATION INFORMATION CENTER

This section describes the National Rehabilitation Information Center (NARIC) in terms of:

- what NARIC will contain (software and hardware) and how the materials will be collected, stored, retrieved, and disseminated;
- what services will be available from NARIC and for whom;
- the activities of NARIC in relation to the Rehabilitation Information Network.

V.1. Software and Hardware Contents

The collection or software contents of NARIC should consist of print and nonprint materials generated with RSA funds and a core collection of relevant materials which are generally available commercially.

V.1.1. RSA Collection

Ideally, the RSA collection would include at least one copy of every document, published article, report, manual, audiotape, filmstrip, etc., arising out of any project or program supported by RSA or its predecessor agencies from 1920 to the present time. Correspondence and other internal working memoranda would be excluded, but certain documents which contain management information of potential general interest, such as State plans, might be acquired. It is estimated that such a collection, at the current time, would include approximately 15,000 titles, the greatest bulk of them being pamphlets or journal articles.

Although the NARIC collection would include a complete set of RSA research reports and related copy service would be provided, *it is recommended that RSA also maintain its arrangement with NTIS for entering RSA-funded research into the U. S. Government reports system.* There are two reasons for this recommendation. First, NTIS reaches a public different from, and wider than, the rehabilitation community. Thus, RSA research is brought to the attention of a potential user group much larger than NARIC could ever hope to contact. Secondly, NTIS has the capability of providing microfiche copy, which is of potential value for building NARIC's collection and for meeting certain needs of such facilities as the Texas State Agency, which have indicated a clear preference for

the microfiche format. Rather than replace NTIS, NARIC would support its service by providing its document order numbers to requestors and by promoting user awareness of the service.

Motion pictures require special conditions for storage and handling. NARIC should arrange with RSA, the R&T Centers, and other RSA-sponsored producers of films to have a current selection available on the premises to exemplify RSA activity in this area. Otherwise NARIC would cooperate in developing tools to provide quick identification of and access to RSA-sponsored films, but leave the collection of films to organizations specially equipped to handle them, such as the National Audiovisual Center at Suitland, Maryland.

V.1.2. Core Collection

In addition to assembly of the RSA collection, it would be necessary for NARIC to develop a core collection of current books, journals, and other materials originating outside RSA-supported programs which would be needed in conjunction with NARIC's fact-retrieval or custom-product services. This collection is seen as being primarily for internal staff reference or for occasional consultation by Washington-based rehabilitation personnel. No attempt should be made to collect such materials retrospectively or comprehensively. It is estimated that the core collection would number 1,500 to 2,000 books and journals, with a pamphlet collection to be maintained at a level of approximately 2,500 items.

To supplement the core collection for reference purposes, it may be necessary to contract for access to several on-line data bases, such as ERIC, Medline, or Psychological Abstracts.

V.1.3. Audiovisual Equipment

The hardware contents of the center would consist primarily of the audiovisual equipment necessary for using all materials. AV materials include films, filmstrips, slides, audio and video cassettes as well as microforms (films, cards, or fiche). Minimal necessary equipment would include a video tape deck, closed circuit TV, audiotape player (with synchronizer), audiotape player (cassette), slide projector (for carrel), screen (for carrel, built in), film cassette viewer, slide projector, table for projector, 8 mm film projector, 16 mm film projector, two tables for the film projectors, screen, portable microfiche reader, microfiche reader/printer, and microfiche duplicator.

V.1.4. Building the Collections

Practically, it would be necessary to build the RSA collection by relying for out-of-print materials on the transfer of personal or office collections and on copying documents housed in existing collections elsewhere. The following general procedure is recommended for assembling the collections:

1) For current materials of any nature (print or nonprint) *RSA should stipulate as part of its agreement with all grantees that at least one copy of every item produced be deposited with NARIC.*

2) Past, and especially out-of-print materials such as research reports, training manuals, filmstrips, etc., which have been issued in limited editions or are for other reasons difficult to locate in standard libraries or rehabilitation facilities, should be acquired as much as possible by transfer from office collections. If transfer of the Research Report Collection from RSA cannot be arranged, it may be necessary to purchase a microfiche set, so far as it is available, from NTIS.

3) Finally, as staff time and money permit, the collection effort should be extended to cover past publications which have appeared in widely circulated journals, such as articles in medical periodicals reporting on findings from medical R&T Center projects, or articles contributed by RSA personnel to learned journals in various rehabilitation-related disciplines. Current publications of this nature would be collected under the provisions described in step 1 above. Past items might be acquired by making copies from existing collections on an "ad hoc" basis in conjunction with responses to inquiries. They could also be solicited as gifts.

Unlike the RSA Collection, which would be all-inclusive with the sole criterion of RSA support, the core collection should be selected to meet staff needs in providing the fact-retrieval and custom services described later in this chapter. The staff would select desired items to be purchased from dealers or publishers. Acquisitions funds would be required in support of this activity.

V.1.5. Storage and Retrieval

Decisions as to physical arrangement of the collections must, of necessity, await a survey of the actual materials made available. There are bibliographies and indexes covering certain categories of RSA-generated literature. It is recommended that the initial phase of arrangement of the collections allow for access, so far as possible, by means of these bibliographic tools. (An annotated list, with suggestions on their potential use in accessing the collection, forms Appendix E of this report.)

It is recommended that ultimately each item in both collections be fully cataloged by author, title, and subject with the cataloging data typed in machine-readable form to allow for possible future production of bibliographic tools useful beyond the physical boundaries of NARIC. The subject headings chosen should correspond so far as possible to those in an existing rehabilitation thesaurus or subject heading list, possibly the *SRS Research Information System Thesaurus*. Some interviewees have indicated difficulty in using the RIS subject headings and coöperation in refining them for cataloging purposes may be in order. Cataloging should extend to the provisions of full citations to separate items included as parts of a single book or pamphlet to assure access to each separate bibliographic entity. Provision would have to be made to distinguish items in the RSA Collection from those in the core collection, both physically and bibliographically, since copying and loan policies in respect to the two collections might differ.

Currently almost all computerized information retrieval systems (except for management information systems) retrieve citations to documents rather than facts. Since existing systems provide for this, the center should not attempt to develop its own system. It is the recommendation of this study that except for providing access to existing computerized retrieval systems, an expensive investment in computerized applications should not be made during the first five years of operation. Low-cost applications, such as production of listings of titles, may be appropriate when a large volume of work is achieved.

V.2. Services

V.2.1. Access to the Collections

It is recommended that the collections be available for on-site consultation by any individual with rehabilitation-related information needs. For this purpose the center should have on the premises the full range of equipment necessary to make use of the microforms and audiovisual materials produced under RSA auspices.

Provision of copy service is recommended in preference to traditional loan service. Exceptions to this policy may be made by providing loan service to nearby personnel, but such decisions are better taken on an individual basis subsequent to implementation. Retention copies of all RSA materials, with the exception of films, would be provided on request to RSA Washington office and regional office staff without charge. All other individuals or organizations desiring copies of materials should be asked to pay a reasonable cost-recovery fee. Although such a charge could not entirely reimburse the center for copy provision costs, it is intended to have the effect of discouraging abuse of the service. NARIC might explore the possibility of a system to allow State and private agencies to draw against a deposit account for such charges, relieving them of the paperwork involved in placing numerous small orders. In recognition of the strong preference for hard copy expressed by the rehabilitation professionals interviewed, hard-copy service should be offered so far as possible, with microfiche an optional format only if items are already available in fiche form.

Copies would be provided as quickly as possible in response to all requests - "while you wait" service being the ideal, two days the maximum turnaround time for normal print materials. For this reason NARIC should be staffed and equipped to do all copying of printed literature on its premises. Audiotapes can also be copied in-house. NARIC should contract for copy service from its collections of slides, filmstrips, and videotapes. Loan and copy service of RSA films would not be handled by NARIC, but NARIC would provide referral service to the selected repository.

V.2.2. Fact-Retrieval Service

The fact-retrieval service would be based on published information contained in materials forming the collections previously described and on unpublished information in files developed by staff in the course of performing this service. In addition, a network of experts would be tapped since much relevant information may not be published at the time it is requested.

Initially, fact-retrieval service would be offered to rehabilitation administrators at the Federal, regional, and State levels and in the private sector. This would allow the staff time to assemble the available reference tools and develop requisite expertise and supporting documentation. The service would then be extended to an ever-widening public, with emphasis on service to the rehabilitation professional in subject areas that are not covered by an existing special-focus center.

Inquiries coming from individuals who are not, by definition, associated with the primary user group would be given lower priority but answered

if no great degree of searching were required. Otherwise they would be referred to another known appropriate source. As NARIC developed, availability of this service would be advertised to additional selected target groups, such as practitioners.

In providing fact-retrieval service, clarification of the question and comprehension of the use to be made of the answer are as important as knowledge of the potential sources for obtaining the data. Therefore, telephone or personal contact is often vital, even when an inquiry arrives by mail. It is anticipated that the greater part of the communication involved in this effort would be by telephone.

The fact-retrieval service has a possible "spin-off" which should be mentioned here. Although the service would be based on what is already known, the information uncovered in the course of day-to-day operations might never have been brought together in one place before. NARIC staff would be tapping human expertise as well as published sources and developing information tools to expedite service and anticipate demand. Files of experts and frequently sought statistics, keyed to the language in which the need for them is most frequently expressed, would doubtless be developed. It is recommended that any such file be assembled and maintained with a view to ultimate publication for use beyond the confines of NARIC.

A record of the subject of the most frequently requested information should be kept as a means for continuous needs assessment.

V.2.3. Custom-Product Development

The information products envisaged here range in complexity from simple abstracts to comprehensive state-of-the-art reports. They are called custom products because they are written or compiled in response to a specific expressed need in language or format adapted to the requestor's desires, and then packaged in the medium he deems most helpful. In other words, they are custom-tailored to the user.

The high degree of personalized service entailed in custom-product development requires concentration on the needs of a narrowly defined user group, sometimes even an individual. RSA Washington-based administrators have been chosen because assisting them in their activities at the national level would have the widest potential repercussions in furtherance of the center's goal. It must be kept in mind, moreover, that the products selected by NARIC for development would be those with potential for repackaging to meet the needs of other user groups. Thus, for example, a survey of innovative and successful business practices in employing the handicapped, compiled to assist an RSA executive in

responding to a Congressional inquiry, might be repackaged as a pamphlet or filmstrip for ultimate circulation to help rehabilitation professionals motivate business and industry.

Development of large-scale custom products, such as trend reports or state-of-the-art presentations, involves five stages, each requiring different types of expertise. Upon receipt of a request, representatives from NARIC's staff would meet with the individuals initiating the inquiry to discuss respective priorities and to define precisely what is needed. Some superficial literature searching and discussion with knowledgeable individuals might be required at this initial stage to assist in determining the time requirements and appropriate method for proceeding.

The next step involves the acquisition of the requisite information and could probably be handled by the information specialists on the staff. The procedure would combine literature searching, both in-house and at related resource centers, with formal or informal consultation of subject experts. A significant body of material might have to be acquired at this stage. Ultimately it could be incorporated in the center's core collection, if it had potential future usefulness. Another suggested method for gathering information where highly technical research findings are involved is to bring together a professional writer and a panel of experts to talk about a subject. The writer is more likely than the researcher to have the time and skill required to convey the essence of the topic in language comprehensible to a layman, while his encounter with the experts gives him a good basis on which to build.

The third phase involves getting the information into the appropriate language, format, and medium. At this stage, if not earlier, it may be necessary to contract for the services of writers, designers, or media specialists.

Following production of the product comes a phase devoted to communications and delivery. If the requested information has been packaged in several media with different user groups in mind, it is necessary to advertise its availability and arrange for distribution to several different audiences. Technical assistance in its application, if required, would fall within this phase.

Finally, the center would engage in a process of evaluation, to determine whether the product had met the needs for which it was designed and had actually proven useful. This could be done through questionnaires or interviews, depending upon circumstances. This phase would assist the center in planning future custom products and could conceivably result in modification of the product in question to promote utilization of the information assembled.

Custom products of low complexity would doubtless involve simpler procedures. However, the essential elements of needs assessment, information acquisition, packaging, delivery, and evaluation remain.

V.3. Formalization of the Rehabilitation Information Network

V.3.1. Potential Members

Membership in the Rehabilitation Information Network will be based on two criteria. First, a Network member must receive funding directly or indirectly through RSA. Second, the provision of some kind of information service must be one of its basic, expressed objectives. Information service is defined broadly to include one or more of the following activities:

- Dissemination of documents either on demand or on a continuing basis. Included here are activities which involve dissemination of information about documents, such as development of bibliographies.
- Provision of information which may be contained within documents as distinguished from the documents themselves. A category of this activity is the referral of requests to appropriate facilities.
- Development of information materials tailored to meet specific user needs or to upgrade certain skills.
- Provision of technical assistance or consultation in utilizing information.

Examples of prospective Network members can best be expressed as representative of certain project categories. Regional Rehabilitation Research Institutes (RRRI's) which have organized programs to control, disseminate, and otherwise encourage utilization of the information they develop on their core-areas of research, should certainly be encouraged to participate. There are four active RRRI's at this time:

> Region V: University of Wisconsin - Core Area: Improving management effectiveness of rehabilitation agencies; evaluation techniques and effectiveness measures.
>
> Region VIII: Center for Social Research and Development, Denver Research Institute - Core Area: Interagency linkages, with emphasis on delivery of rehabilitation services in sparsely populated areas.

Region X: Portland State University, Portland, Oregon - Core Area: Job placement and job development.

Region II: Columbia University School of Social Work, New York City - Core Area: The role of unions and management in job placement of the disabled.

A fifth, to concentrate on nonarchitectural barriers to employment, is in the planning stages for Region III. Regional Continuing Education Programs, such as that at SUNY Buffalo, offer another group of likely candidates.

Research and Training Centers should also be considered for inclusion. There has been, up to now, an effort to provide lists of publications coming out of the R&T Centers and to report on their ongoing activities. The grant for this project terminates in 1975. If a similar project is again undertaken, it should be represented on the Network panel. Moreover, specific R&T Centers which have demonstrated an interest in problems of information delivery and utilization should be individually represented. These tend, at present, to be the nonmedical centers such as those at the Universities of West Virginia or Arkansas, but medical centers with an interest in joining should be encouraged to participate.

Research Utilization grantees are another likely category. The Research Utilization Laboratories and grantees working on controlling the research literature, such as those associated with the University of Florida at Gainesville or the SRS Research Information System, fall into this group.

Other prospective members include specific operations concerned with training materials, like the Materials Development Center at the University of Wisconsin Stout Campus. Clearinghouse activities, such as those at Oklahoma State University or those associated with the RUL at ICD, should be included. The recent program undertaken by Rehabilitation International USA to distribute selected rehabilitation films originating abroad and to disseminate information about U. S. films, makes RIUSA a likely participant, as do several of its other activities. State Agency libraries and State research utilization programs offer additional potential members.

This list should demonstrate the diversity of types of institution envisioned as participating in the Network. It should be obvious that their ongoing information activities are highly dissimilar. What they have in common is an objective: getting required information to people who can use it to improve the condition of handicapped individuals.

As mentioned earlier, major rehabilitation information resources exist which are not funded by RSA. Although these resources would not be part of the Rehabilitation Information Network per se, they play a potentially significant role as backup resources. Each component in

the formal network would be encouraged to establish contact with additional information resources having bearing on its activities, particularly those in close proximity, in order to minimize duplication of collections. Secondary resources would include systems such as the National Technical Information Service (NTIS) and the Educational Resources Information Center (ERIC), as well as libraries and clearinghouses. The appropriate secondary links would differ from member to member, but it would be the responsibility of each to maximize its services by tapping into these resources.

Deserving of special mention here is the role in the Network of the Clearinghouse for the Handicapped. Because of its unique position, *it is recommended that the Clearinghouse for the Handicapped be invited to become an ex officio member of the Network and to sit on the Network advisory panel.*

V.3.2. Network Structure and Activities

NARIC would act as the catalyst in formalizing the Rehabilitation Information Network. Members of the Network would be represented on a board or panel which would set the policies of the Network. Smaller groups might be formed as task forces on various problems that the network panel decided to pursue. Following are examples of activities which the Network could initiate:

1) Upgrading of Information Skills

In the rehabilitation field, as in many other fields, information service is provided outside of the formal channels by personnel who are not necessarily trained in information retrieval techniques. Particularly in smaller offices, the information-provider may be a secretary or assistant whose responsibilities include, among other things, the filing of reports or maintenance of an office collection. Often such people have created an informal but effective network of human resources. Their effectiveness as information providers can be increased, however, by an awareness of the published sources of information and the means of gaining access to them. One worthwhile activity of the Network would be to provide workshops and/or develop materials aimed at this particular segment of the rehabilitation community.

2) Promotion of User Awareness

One of the clear findings of this study is a lack of awareness on the part of rehabilitation personnel of information services already available to them and of how to exploit these services effectively in their work. Simple good sense dictates the need to make known to users what is available and, more importantly, to demonstrate the use and relevance of information in providing rehabilitation services to the client. Banding together presents a possibility of effecting significant economies in promotional activities by coöperating to make the total services offered by all Network members known.

The promotion of user awareness would be a common goal. Mechanisms for achieving this objective might include delivering papers at conferences, exhibits, information packets for wide distribution, etc.

3) Continuous Assessment of Needs

The Network arrangement provides an opportunity for sharing ideas as well as for identifying gaps and assessing information needs on a continuing basis. Moreover, it offers a mechanism for self-evaluation. The Network can assist in the effort to improve information service to the rehabilitation field by developing standards against which individual members can evaluate themselves.

VI. IMPLEMENTATION REQUIREMENTS

This section discusses implementation requirements in terms of the space and equipment, staffing, location, and funding necessary to conduct the recommended activities. Since staffing and space requirements affect the selection of the recommended location of the center, these requirements are discussed first.

VI.1. Staffing

In order to support the proposed programs described in previous sections of the report, the following types of personnel are required:

Director. Ideally, the director of NARIC should have a rehabilitation background combined with information-processing or library experience, but the rehabilitation background takes precedence. More importantly, the person selected for this position should have relevant field experience and should be well respected by the entire rehabilitation community. The director will be responsible for the overall administration of NARIC as well as for planning and interfacing with other administrators. The level of academic degree is not crucial. Qualities of leadership and commitment are essential. The position would be equivalent to a civil service rank of 14 or 15.

Assistant Director. The second in command should complement the background of the director. If the director has a rehabilitation background, as recommended, this position should be staffed by a qualified information specialist who is knowledgeable about information techniques and technology. Since the assistant director will be responsible for day-to-day operation, it is essential that he or she be an effective manager. This position would be equivalent to a civil service rank of 13 or 14.

Information Specialists. At least two information specialists would be required to assemble and arrange the collections and to support the fact-retrieval and custom-product-development services. (The staff for the latter would be supplemented by subject and media specialists hired as consultants on a project-to-project basis.) A grade equivalent to GS 12 or 13 would be appropriate for each position.

Clerical Staff. The clerical support staff must include office and library skills. In addition to a qualified secretary for the director and assistant director, the clerical staff would consist of four full-time positions equivalent to civil service grades ranging from 5 to 7.

The size of this staff is adequate to support the proposed activities of NARIC. However, expanded or additional services in later years would require a concomitant increase in staff size.

It is recommended that whenever possible, employment opportunities be provided to qualified handicapped individuals. Since NARIC would exist to support services to the handicapped, a personal understanding of their problems could only enhance the program.

VI.2. Space and Equipment

Space requirements described here to house the staff, the users, the collection, and the equipment are projected for five years.

To support the proposed services, NARIC would initially require a staff of nine full-time equivalents (FTEs). It is projected that an additional 8.8 FTEs would be required if expanded and new services are provided within the five years (see Funding Requirements, p. 45).

Space requirements for the staff are calculated on the basis of 500 square feet for the first three FTEs and an additional 140 square feet for each additional staff member. It is therefore estimated that space requirements for staff alone would be 2,500 square feet.

It is expected that the number of users on the premises at any one time would be small since most requests would be by mail or telephone. Space calculation for users allows 35 square feet for a maximum of 10 simultaneous users, or 350 square feet. In addition, 200 square feet are allocated for meeting space, for a total user space requirement of 550 square feet.

The collection of 15,000 items would require relatively small space since a large proportion are pamphlets or copies of articles. Whenever possible, as in the case of back runs of journals, microforms would be acquired rather than hard copy. The projected growth rate is estimated at 5% per year. The collection would require 500 square feet.

Housing for audiovisual equipment would require another 400 square feet. The necessary equipment is listed below.

Table 2 summarizes the space requirements.

TABLE 2

SPACE REQUIREMENTS

STAFF		
3 FTE	500 sq. ft.	
14.8 FTE x 140 sq. ft.	2,072 sq. ft.	
Subtotal		2,572 sq. ft.
USERS		
10 users x 35 sq. ft.	350 sq. ft.	
Meeting space	200 sq. ft.	
Subtotal		550 sq. ft.
COLLECTION		500 sq. ft.
EQUIPMENT		400 sq. ft.
TOTAL		*4,022 sq. ft.*

Equipment requirements, particularly audiovisual equipment, depend upon whether or not NARIC would be housed in an existing multimedia center. The following types of audiovisual equipment would have to be acquired if existing equipment were not available on the premises: video tape deck, closed circuit TV, audiotape player (with synchronizer), audiotape player (cassette), slide projector (for carrel), screen (for carrel, built in), film cassette viewer, slide projector, table for projector, 8 mm film projector, 16 mm film projector, two tables for film projectors, screen, portable microfiche reader, microfiche reader/printer, microfiche duplicator.

In addition to AV equipment, typical office equipment and furnishings, including two photoduplicating machines to support the photocopying service, would be required.

VI.3. Alternative Locations

There are a number of factors which need to be considered in determining the most feasible location for NARIC. One such factor is type of service and projected user. Basically the study recommends three categories of service activity for NARIC, each to be addressed to specific user groups at specific stages of implementation. Network activities, recommended in addition, relate primarily to other information providers in the field. The effectiveness of this type of activity has little to do with NARIC's location.

The fact-retrieval service is initially addressed to support administrators at the Federal, regional, and State levels and in the private sector. Customarily, requests for this type of service are communicated by mail or telephone. Geographic proximity is not a determinant of effectiveness for the fact-retrieval service.

The development of custom products would be based on issues identified by RSA administrators. Since the effectivness of custom service would require a close working relationship with this particular user group, it would be desirable to locate NARIC close to RSA headquarters.

Finally, the copy service based on the RSA core collection would be available to all segments of the rehabilitation community, including the interested public. With such a geographically dispersed clientele, one location does not have significant advantages over another. However, geographic location is an important factor in regard to in-person use of facilities. All other factors being equal, the ideal location for assembling and servicing the RSA collection is proximity to one user group, the RSA staff.

Assuming, therefore, that the center should be in Washington, D. C., there are a number of alternative locations. Basically there are three feasible options. The first is to locate and operate NARIC in the complex of buildings which house the RSA offices, either in physically independent space or as part of the Clearinghouse for the Handicapped, or the HEW Library. In many ways, this would be an ideal location. However, the option has serious drawbacks and may not even be possible. Currently there is no space available at HEW which would meet requirements for housing the collection and staff. Additionally, this option is likely to incur renovation expenses which could be avoided wholly or in part by building on existing facilities elsewhere. Most importantly, needed services would be delayed by the requirement for renovation.

A second option which has to be considered is the possibility of building on other existing facilities which currently offer the space, equipment, and furnishings required for day-to-day operation - preferably an existing multimedia resource center. In addition to substantially reducing or entirely eliminating renovation expenses, it might be possible to arrange with an existing multimedia resource center for the use of audiovisual equipment and the use of computer terminals for access to various data bases. An additional advantage offered by this option is availability of specialized skills and collections.

A third option is to house the collection and staff at an existing center and, in addition, to maintain a small office at RSA to provide a human link and immediate face-to-face interchange with that group of users. The advantages to be gained by providing an office at RSA

are not significant enough to justify the additional costs which would be incurred.

In Table 3, the first-year costs of the three options are compared in terms of operational, space, overhead, fringe benefit, and renovation costs. The figures clearly indicate that option 2, building the center upon an existing multimedia facility, offers the lowest cost.

TABLE 3

COSTS ASSOCIATED WITH ALTERNATIVE LOCATIONS

	HEW	*Existing Multimedia Center*	*Existing Multimedia Center and HEW Office*
First-year direct charges[1].....	$241,000	$221,000[2]	$230,000[3]
Space ($10 per sq. ft.):[4]			
x 4,000 sq. ft.....	40,000	0	
x 100 sq. ft.....			1,000
Overhead (15% of direct charges excluding books and equipment).....	0	30,750	30,750
Fringe benefits:			
10% of S&W.....	13,600		
16.5% of S&W).....		22,440	23,925
Renovation ($35 per sq. ft. x 4,000 sq. ft.).....	140,000	0	0
TOTAL	*$434,600*	*$274,190*	*$285,675*

[1] See first-year budget on p. 46.

[2] First-year direct charges ($241,000) minus AV equipment ($20,000).

[3] $221,000 plus salary of one additional person stationed at HEW.

[4] Although space would not be an out-of-pocket expense for RSA if the center were located at HEW, a dollar value has been assigned to it, on the basis of average rental rates for Government buildings in Washington, D. C., of $10 per square foot.

The following conclusions emerge from this consideration:

- NARIC should be located in Washington, D. C.
- Ideally NARIC should be located in close proximity to the RSA offices. However, from the cost-benefit point of view, the preferred option is to house NARIC within an existing multimedia center, at least for the initial years of operation.

Regardless of where NARIC is housed, *it is recommended that NARIC be operated as a grant or contract activity until its viability has been established in fact. It is further recommended that the facility be accessible to handicapped individuals.*

VI.4. Funding

While funding requirements would be affected by the chosen location for NARIC, certain costs would exist regardless of location. The anticipated costs for the first year of operation are given in Table 4.

TABLE 4

FIRST-YEAR FUNDING REQUIREMENTS

1975/76

1.	PERSONNEL		
	a. Director	$30,000	
	b. Assistant Director	25,000	
	c. Information Specialists (2)	40,000	
	d. Clerical		
	Grade 7 (2)	20,000	
	Grade 5 (3)	21,000	$136,000
2.	TRAVEL AND PER DIEM		
	a. Staff		
	(10 trips x $250 per trip) +		
	(20 person days x $35 per day)	$ 3,200	
	b. Network Panel Members		
	(48 trips x $250 per trip) +		
	(48 person days x $35 per day)	13,680	16,880
3.	CONTRACTED SERVICES		15,000
4.	EQUIPMENT		
	a. Office furnishings	$ 4,500	
	b. Shelving (360 ft. of shelf space)	2,500	
	c. Filing units (175 ft. of filing space)	3,700	
	d. Typewriters (4)	3,200	
	e. Photoduplicating machine (1)	10,000	
	f. Other (books and other materials)	16,000	
	g. AV equipment*	20,000	59,900
5.	SUPPLIES (consumable)		5,000
6.	OTHER DIRECT CHARGES		
	a. Postage	$ 3,000	
	b. Telephone	5,000	8,000
*TOTAL (Items 1-6)***			*$240,780*

* Not required if NARIC is housed in existing multimedia center.

** It should be noted that these costs do not include the following: (1) fringe benefits and indirect charges which differ with the contracting institution; (2) renovation costs - the extent of required renovations differs with the space available. It should also be noted that there is an expectation of income from the photocopy service to partially offset some of the costs associated with providing that service. However, it is difficult to estimate at this time what the volume or demand would be.

Although it is not possible to provide the same level of detail for future funding requirements, certain factors can be postulated to provide the basis for projecting future costs. These are:

- Inflation at an annual rate of 10%

  This means that to maintain the same level of services with the same staffing and space requirements, the cost for the subsequent years of operation will increase at the rate of 10%.

- Expansion of services

  If we postulate that the level of service will be increased by expanding that available during the first year (to additional user groups, for example), then the increase in funding requirements will be larger than the inflation rate. The estimates shown in Table 5 for increases in budget to cover expansion of existing services assume (in addition to inflation):

  1) that the major cost item will be salaries;

  2) that one professional staff member will be added during the second and another during the third year of operation;

  3) that for every professional staff member, $50,000 (today's value) is required to support the professional staff salary, fringe benefits, travel, clerical support, etc.;

  4) that the level of demand will reach its peak, and, therefore, the increase in staff will taper off, by the fourth and fifth years of operation.

  The second type of expansion covers new services. Without specifying the nature of the additional services (which should be determined by continuous needs assessment), it is difficult to estimate the costs associated with this type of expansion. Again, certain assumptions are made:

  1) that new services will not be added until the third year of operation;

  2) that for each new service added, two professional staff members are required at an estimated $50,000 each (today's value);

3) that one new service will be added during the third year and will be tested and implemented during the fourth and fifth years of operation.

- Renovation and construction costs

For all practical purposes, construction and renovation costs are the same per square foot. The cost for renovating 4,000 square feet at present is estimated at $140,000 (see Table 3). Since building and renovation costs have been increasing in Washington, D. C., at the rate of 11.59% per annum, the actual costs incurred for renovation would depend upon when renovation takes place, if at all. Because renovation requirements are uncertain and the time factor affects costs, they have not been included in estimates of future funding.

- Computer applications

It is the recommendation of this study that except for providing access to existing computerized retrieval systems, only minimal investments should be made towards computerized applications during the first five years of operation. Low-cost applications, such as automatic billing for copy services or production of title listings, may be appropriate when a large volume of work is achieved. Therefore, $50,000 has been budgeted over the fourth and fifth years of operation to develop housekeeping systems such as those mentioned above.

TABLE 5

FUTURE FUNDING REQUIREMENTS
Expenditures by Year[1]

	SECOND 1976/77	*THIRD 1977/78*	*FOURTH 1978/79*	*FIFTH 1979/80*
Base operations[2]	$220,200[3]	$297,200	$508,400	$586,700
Expanded services	50,000	55,000	-	-
Additional services	-	110,000	-	-
Computer applications	-	-	25,000	25,000
TOTAL	*$270,200*	*$462,200*	*$533,400*	*$611,700*

[1] Excludes fringe benefits and indirect charges which differ with the contracting institution.
[2] Previous year's cost + 10% for inflation.
[3] First-year cost ($241,000) minus equipment ($59,900) plus 10% for inflation plus $21,000 for other needed equipment and books.

VII. SUMMARY

This section summarizes the report by briefly answering the questions defined as the objectives of the study.

1) *Who can most effectively be served by a National Center and what services should be provided?*

   There should be no single user group. Rather, the report recommends that the center be established to provide three services, each for different users.

   - Access to the collection would be provided to all segments of the rehabilitation community and the public at large.

   - Fact-retrieval service would be initially limited to administrators in support of their planning and policy-formation functions. This group would include administrators at the Federal, regional, and State levels, as well as from the private sector. The service might ultimately be expanded to other user groups.

   - Customized information products would be developed in accordance with identified needs of RSA administrators and repackaged for subsequent distribution to other sectors of the rehabilitation community or the general public.

2) *What software and hardware would the center require?*

   The software content of the center would comprise materials in all media which are generated with RSA support and a small core collection of other materials which are directly relevant to rehabilitation. The hardware contents of the center would consist of AV and other equipment necessary to provide the services described above. A complete list of equipment is provided in Section VI.2.

3) *What is the best system for storing, retrieving, and disseminating rehabilitation information?*

   The findings of the study indicate that users overwhelmingly prefer hard copy to microform. Materials would be provided in hard copy. In disseminating facts, as differentiated from materials, speed is the single most important factor.

This implies that fact dissemination be by phone. Computer applications, except for access to existing systems, should be limited to housekeeping systems such as automatic billing and provision of listings of titles. Complex retrieval systems are not appropriate at this time.

4) *Where should the center be located and how should it be structured?*

Ideally, the center should be located in close proximity to the RSA offices in Washington, D. C. However, this may not be a feasible alternative due to lack of space. From the cost-effectiveness point of view, the recommended alternative is to locate the center in an existing multimedia center. This alternative minimizes or eliminates the need for renovation, and provides access to AV equipment, specialized collections, and skills.

Regardless of its location, the center should be a grant or contract activity, at least until it has proven its viability.

5) *What costs would be incurred in establishment of a National Center?*

Funding requirements for the first year of operation are estimated at approximately $241,000. Expanded services and inflation could bring the annual budget to $612,000 by the fifth year.

6) *How can existing related information resources be made more effective?*

In respect to organizational resources, the study recommends formalization of a Rehabilitation Information Network composed of RSA-funded information facilities with the National Center as catalyst. The Network would provide a mechanism for coördination of services and continuous assessment of needs. Members of the Network would be encouraged to establish links with other information facilities which are not funded by RSA in order to tap these resources on behalf of the Network as a whole.

Material resources can be made more effective by providing easy access to them and through using them to develop custom products. A third type of resource, perhaps the most important, is the human resource. It is proposed that the fact-retrieval service not only rely on facts in published documents but also on an informal network of experts.

APPENDIX A

REPORTS AND STUDIES CITED IN THE TEXT

Canadian Rehabilitation Council for the Disabled.
Proposal for a Study to Investigate the Requirements of a National Information Centre for the Rehabilitation of the Physically Disabled and to Recommend Its Organization and Method of Operation. Hamilton, Ontario: McMaster University, Centre for Applied Research and Engineering Design, Inc., Sept. 30, 1974.

Glaser, Edward M.
"Knowledge Transfer and Institutional Change." *Professional Psychology*, Nov. 1973, 434-444.

Havelock, Ronald G., et al.
Ideal Systems for Research Utilization: Four Alternatives. Washington, D. C.: Social and Rehabilitation Service, U. S. Department of Health, Education and Welfare, 1974.

Muthard, John E., and Crocker, Linda M.
Knowledge Utilization Resources and Practices of Vocational Rehabilitation Managers. Gainesville, Fla.: Regional Rehabilitation Research Institute, College of Health Related Professions, University of Florida, 1974.

Price, Derek de Solla.
Little Science, Big Science. New York: Columbia University Press, 1963.

Velleman, Ruth A.
"Rehabilitation Information; a Bibliography." *Library Journal*, Oct. 15, 1973, 2971-2976.

APPENDIX B

MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
SOCIAL AND REHABILITATION SERVICE
Rehabilitation Services Administration

DATE: MAY 31 1974

BJECT: Development of a Rehabilitation Resource Center - ACTION MEMORANDUM

Staying up to date in the field of rehabilitation is no longer an easy task for the field has fallen prey to the information explosion. Statisticians indicate that the total volume of documents doubles every 25 years or less. Some say every decade. Where yesterday the rehabilitation practitioner dealt primarily with topics such as "physically disabled," "mentally retarded," and "mentally ill" today he must deal effectively with "prioritizing services," serving severely disabled," "research utilization." Tomorrow who knows!

The rehab professional himself has changed. In the early days, the rehab professional consisted of counselors, supervisors, and administrators who for the most part had worked their way up through the ranks. Today it is not unlikely to have psychologists, social workers, teachers, physicians, physical therapists, occupational therapists, and others as part of the rehab team. Each specialist on this team represents a different yet often overlapping body of knowledge.

Information relevant to the rehab practitioner is available but scattered, and varied but sometimes poorly packaged. Rehab information may be found in journal articles, research reports, monographs, abstracts, unpublished papers, films, slides, cassettes, tapes, videotapes, telecommunication, and other forms. At present this information must be tapped by writing to any number of sources, such as NTIS, NAVC, ARMS, NDC, RRRI, R&T Centers, NLM, University libraries, agency libraries, multimedia resource centers, etc. If the desired material is not available from a given location, referrals must be made and additional inquiries instigated. There is no centralized depository of past, current, and ongoing rehab programs in multimedia form accessible at the time of need. Thus, finding timely and relevant material becomes a difficult and time consuming task rather than a meaningful opportunity for improved efficiency.

RSA should inaugurate a feasibility study for a national multimedia rehab resource center which could consolidate and distribute (or have distributed) existing and future materials in a timely and systematic fashion. Short-range objectives would include: (1) Identification of users and user needs, (2) Identification of resources and ways to systematically tap these, (3) A determination of the possible software

content of the center, (4) Determination of the best system for storing and retrieving, and disseminating the needed information and (5) Analysis of cost-effectiveness factors.

Action steps are as follows:

1. A decision will have to be made as to who will be the intended users of the center. Is it to be primarily the rehab administrator located at RSA or at state rehab agencies and centers? Is it to be primarily researchers at R&T Centers, RRRIs, Universities or Colleges, or the practitioners in the field? Or on the other hand should the user be primarily satellite centers, libraries, and distribution centers in various localities? After this decision is made, a user profile must be determined. A comprehensive study is needed to determine the dimensions of his information needs and the forms he needs it in. This can be done via questionnaires, random sampling, and other statistical methods. RPRI in Florida has been working on one such survey which might be utilized for this feasibility study.

2. Foremost among the many questions to be researched is the question related to resources. Is it possible to gather all of the needed information from such a broad range of sources? The ideal rehab resource center must be integrated with other media systems for both input and output. What is the best way to do this? Is it better to collect relevant materials from these varied resources and house them at the core center, or expand, coordinate the existing distribution systems, or to develop satellite centers in each of the ten regions of HEW to house much of the material disseminated via the core center. To best tackle this we suggest a systems approach to locating as much information as possible by exploring existing resource possibilities. Careful examination of other multimedia systems is an absolute must.

3. What specifically should the rehab resource center contain in the way of software and hardware? Careful examination of user needs will be the key to answering this question. Guidelines for content should be based on what is needed to best fill the informational need in the form most meaningful to a given individual. Research into the acceptability of the form of the material is necessary. The use of audiovisuals, abstracts, microfiche, standard book form, are all at the option of the user. AV for instance, along with two-way interaction telecommunications methods using computers is the present "glamour" form for information retrieval and dissemination. But studies, by the Office of Education and several university resource centers (e.g. Self-Study Center, MCV) show there is some resistance to the use of this new technology, due mainly to the user's lack of knowledge of effective usage. Complete training programs will have to be initiated in order that the potential user can gain confidence in the use of modern data transmission technology.

4. Determination of the best system for storing, retrieving, and disseminating the needed information will be a time-consuming task, but a necessary one. There is much literature available on storage and retrieval methods which should be reviewed. Our Division of Research Utilization, now called "Support Services" has spent several years in developing innovative methods for dissemination and utilization of research information. It may be of interest to explore and receive assistance from this group in the dissemination facet of the media system. A decision will have to be made, at the very beginning, whether the resource center will go into the distribution business or "farm it out." In the beginning it may be less expensive for the resource center to handle all of its own distribution in terms of slides, pamphlets, booklets, abstracts, research reports, etc. However, studies can be made to verify this opinion. In addition, the possibility of incorporating multimedia vans should be explored. These vans could have the capability of further outreach into remote areas, where accessibility to relevant information is not feasible. These vans could also be used as a training tool in the operation of new regulations where it is not applicable for the researcher or professional to come into a metropolitan area for training. A multimedia van would also have the advantage of allowing the user in a remote area to actually show his problem or situation via the use of videotape.

5. Where should the core center be located and how should it be structured? Questions as to size, proximity to the user and availability must be thoroughly researched. Can space be alloted here in the Mary E. Switzer Building or will it be necessary to rent space nearby? Should the center include carrels for audio-visuals, telecommunications, etc? Should these be individualized or large enough for several individuals to confer after viewing relevant audiovisual materials? What, if any, relation exists to the clearinghouse function of the Office of the Handicapped?

6. A careful analysis of cost-effectiveness factors would include looking carefully at rent, personnel, maintenance, materials, hardware, etc. Other media systems can be helpful in finalizing feasibility considerations. The cost-benefit studies made in relationship to various resource centers and media systems should generate much useful statistical information and guidelines in making a final decision in this matter.

The Office of Education, for instance, along with many universities, public school systems, have been developing the concept of implementation of resource centers for years. Some have been successful while others have failed. The Bureau of Education for the Handicapped, Office of Education, has worked for over 8 years in the development of a resource center which is incorporated in their special evaluation instruction

material and only recently have they developed a truly workable system. Before rehab services could start the development of its center, a complete feasibility study must be started to determine loopholes to avoid in serving the user and who exactly is the user.

Summary

There seems to be an urgent need for RSA to put its resource information house in order if knowledge and techniques that the program generates are to be truly effective in our service to handicapped individuals. Fragmentation presently occuring must be corrected. Modern packaging of resource materials must be developed and the information needs from the field must be adequately assessed. Since all of these activities are comprehensive in nature and interlocking, a development plan must be undertaken which takes into consideration both resource allocations and output goals. As stated above a feasibility plan to examine these elements seems to be the first step.

APPENDIX C

STRUCTURED INTERVIEW GUIDE
AND
SUMMARY OF DATA COLLECTED

JANUARY 15, 1975

NATIONAL REHABILITATION INFORMATION CENTER PROJECT

INTERVIEW GUIDE

REHABILITATION RESEARCH & TRAINING CENTER
GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D. C.

APPENDIX C

INTRODUCTION TO INTERVIEW

As you know from the letter of introduction you received from us (from our conversation), the Rehabilitation Services Administration has funded this study to make recommendations for a national rehabilitation information center. As an integral part of this study, we are conducting structured personal interviews with a selected sample of individuals working in (knowledgeable in) rehabilitation-related fields.

During our discussion, I will be trying to identify your information needs in your work related to rehabilitation, the sources you currently rely on for information, and the types of services and products you might like to see provided by a rehabilitation information center. The results of this survey will assist us in designing a center. Your comments and observations throughout the interview will be appreciated and valued.

. ACTIVITIES

1. Would you describe your primary mission or objectives, especially those related to rehabilitation?

_____

_____

_____

_____

_____

_____

2. Here are two cards; one contains a list of types of activity; the other, a list of areas of interest relative to rehabilitation. In your work related to rehabilitation, what activities do you perform in which areas of interest? For example, research in mental retardation, ...etc.

INTERVIEWER INSTRUCTIONS:
Give respondent both cards; record his oral response below, by supplying letter from "areas" in indicated "activities" blank.

Are there any other activities or areas of interest relative to your work in rehabilitation which are not included in the lists?

_____ No _____ Yes

INTERVIEWER INSTRUCTIONS:
If yes, record under "other" on lists.

TYPES OF ACTIVITIES

1)_____Research

2)_____Training of Rehabilitation Personnel

3)_____Vocational Rehabilitation (includes training, counseling and placement of client)

4)_____Other Face to Face Rehabilitation work (such as assistance with housing, transportation, recreation etc.)

5)_____Administration (Direction of a program, program development etc.)

6)_____Grant Disbursement

7)_____Fund Disbursement (to individual client)

8)_____Information Retrieval/ Dissemination

9)_____Publicity/Public Relations

10)_____Lobbying

11)_____Rehabilitation Engineering (Provision or development of devices to aid client)

12)_____Elimination of Architectural Barriers (Design or development work)

13)_____Provision of Health Care or Hospital Services

14)_____Provision or Coordination of Custodial or Residential Care

15)_____Other (specify)_____

_____

16)_____Other (specify)_____

_____

AREAS OF INTEREST

a. Speech Disorders
b. Deafness
c. Blindness
d. (Other) Physical Handicaps (includes progressive disabilities, functional disabilities, severe disabilities, etc.)
e. Developmental Disabilities (including mental retardation)
f. Psychiatric and Emotional Disorders
g. Medical Disorders
h. Alcoholism
i. Drug Abuse
j. Child Abuse
k. Veterans
l. Inmates of Correctional Facilities
m. Other (specify)_____

_____

n. Other (specify)_____

_____

I. Information Sources Currently Used

We are trying to learn something about where you are currently getting the information you need in your professional work and how you value these sources.

1. Generally speaking, information can come in many ways, for example:

_____In conversation with colleagues

_____In printed form (articles, reprints etc.)

_____In papers heard at meetings or conferences

_____Through films, TV, or computer assisted learning

Which of these varied means of communicating information do you consider to be most useful to you in the course of your work. I will repeat the list of examples and we'd like you to rank them in order of their usefulness to you. Of the four categories [REPEAT LIST] which is most useful? Next? and third?

INTERVIEWER INSTRUCTIONS:
Repeat categories as necessary. Place numbers 4-1 beside categories with "4" standing for most important etc.

Our study is principally concerned with the formal dissemination and use of information in published (both print and non-print) form.

2. Which one of the following categories of literature do you have occasion to consult most frequently in conjunction with your professional work?

INTERVIEWER INSTRUCTIONS:
Check one, or at most two.

_____Professional Rehabilitation Literature

_____Bio-Medical Literature

_____Management or Business Literature

_____Information Sciences Literature

_____Social Sciences Literature

_____General Literature

_____Other (specify)_____

_____

Published information is available in many forms and we are trying to determine which you find most useful and where you currently acquire them?

INTERVIEWER INSTRUCTIONS:
Give interviewee card listing formats and general type of source. Ask questions a/b/c (if applicable) for each form and record reply in grid.

3. I am going to ask you some questions about the usefulness to you of certain forms in which information is supplied and your current access to them. It may help you to refer to the categories listed on this card as they will be the groups considered.

Speaking of _____,
do you use them in the performance of your work?

INTERVIEWER INSTRUCTIONS:
If answer is yes, place check in appropriate column. Otherwise leave unmarked.

How frequently do you have occasion to use them? (weekly, monthly, occasionally)

INTERVIEWER INSTRUCTIONS:
Place abbreviations W(Weekly), M(Monthly), O(Occasionally), in appropriate column.

Formats Used

	Use?	How Often		Use?	How Often
Journals (complete issues)	___	___	Statistical Reports	___	___
Specific Articles	___	___	Bibliographies, Indexes Abstracts	___	___
Newsletters, Reporting Services	___	___	Computerized Data Bases	___	___
State of the Art Reports	___	___	Books	___	___
Specific Research Reports	___	___	Films	___	___
			Information Packages specifically tailored to your needs	___	___

4. Looking over the list of possible sources, which are most helpful to you in supplying information in these various formats? (You may name more than one but please mention only those actually used.)

INTERVIEWER INSTRUCTIONS:
Check sources mentioned as being helpful. Retrieve card.

Type of Source

Personal subscription or personal library	___	Other Library	___
Colleague	___	Special Clearinghouse	___
Inter-Agency Routing	___	Commercial Information Service	___
Office Collection	___	Private or semi-private Association	___
In-house Library	___	Author or Source Agency	___

5. I am now going to give you a list of certain specific information sources and ask you some questions about their usefulness to you (if any) in your current work.

INTERVIEWER INSTRUCTIONS:
Give interviewee card listing "Sources of Information." Ask questions 5a-c for each in turn where applicable. Record answers on grid. Code Y for "yes" and N for "no." If inapplicable, leave blank.

5a. Are you familiar with _____(beyond simply knowing that something with that name exists?)

If answer is "no," stop here. Go on to next source.

5b. Do you use it?

If answer is "no" skip to next question.

5c. Are you satisfied with it?

Specific Sources of Information

	familiar?	use?	satisfied?
ERIC (Educational Resources Information Center)	____	____	____
MEDLINE	____	____	____
NTIS (National Technical Information Service)	____	____	____
Clearinghouse for Drug Abuse	____	____	____
Clearinghouse on Alcoholism	____	____	____
Clearinghouse for Mental Health	____	____	____
SIE (Smithsonian Science Information Exchange)	____	____	____
HEW Library	____	____	____
NLM (National Library of Medicine)	____	____	____
NIH Library	____	____	____
State Vocational Rehabilitation Administration Library	____	____	____
University Medical Library	____	____	____

6. Are there any comments or suggestions you wish to make about any of the sources listed on your card?

INTERVIEWER INSTRUCTIONS:
Place asterisk in appropriate grid slot but record comment here.
Retrieve card.

7. Can you tell us of any other information sources, public or private (e.g. an in-house data base, another library, an organization) which you find particularly useful in your work?

1.

2.

3.

4.

5.

6.

IV. POTENTIAL SERVICES

1. I am going to give you a list of potential services and products which could be provided by a national rehabilitation information center. We would like your opinion of their relative usefulness to you. Please check the box reflecting your assessment of the value to you of each service or product.

> INTERVIEWER INSTRUCTIONS:
> Give respondent the list. When he returns it, write his name in lower right corner.

2. Provision of some of the services or products on that list is expensive. How do you feel about sharing the costs by payment of a cost-recovery charge? Would you be willing pay such a fee for:

	YES	NO
Copy services (paper copies)	___	___
Copy services (microforms)	___	___
Loan of films etc.	___	___
Directory of experts	___	___
Bibliographies or abstracts on demand	___	___
Bibliographies or abstracts on a recurring basis	___	___
Translations	___	___

3. Are there any other information products or services you feel a national rehabilitation information center should provide?

4. Are there any ideas you haven't had an opportunity to share with us that you think should be considered in our study and which you would like to tell us about?

5. a. Would you like to suggest any other individuals or associations we ought to contact?

_____

_____

_____

b. Other ongoing information projects that we should know about?

_____

_____

_____

c. Any materials that might be particularly helpful?_____

_____

_____

_____

INTERVIEWER INSTRUCTIONS:
Be certain to retrieve all cards and forms. Attach "Potential Services" form to this completed instrument. DO NOT FORGET TO THANK THE RESPONDENT!

POTENTIAL SERVICES

	Highly Useful	Of Limited Usefulness	Not Useful
a. Provision of bibliographies on request	☐	☐	☐
b. Provision of abstracts on specific subjects, compiled on request	☐	☐	☐
c. Quick search service (rapid provision of factual information in response to questions posed)	☐	☐	☐
d. Access to a reference collection of research reports, texts, conference proceedings, journals etc.	☐	☐	☐
e. Publication and regular periodic distribution of a current events newsletter (describing activities at the federal, regional, state and local levels)	☐	☐	☐
f. Regular periodic publication and distribution of "state-of-the-art" summaries on research fields or rehabilitation service subjects	☐	☐	☐
g. Regular periodic compilation and distribution of lists of available rehabilitation related films, slides, tapes etc.	☐	☐	☐
h. Periodic selection and dissemination of sets of abstracts based on individual information needs profiles	☐	☐	☐
i. Automatic dissemination of selected reports, proceedings, studies or data to user audiences with common information needs profiles	☐	☐	☐
j. Distribution of, or access to, lists of recognized experts or centers of expertise on various aspects of rehabilitation	☐	☐	☐
k. Referral to appropriate sources or services for information areas which the center cannot cover	☐	☐	☐

	Highly Useful	Of Limited Usefulness	Not Useful
l. Publication of a directory of other sources of information relating to rehabilitation	☐	☐	☐
m. Publication of a list of funding resources at federal, regional and state levels	☐	☐	☐
n. Provision of copy services (paper copies of reports etc. for retention by the requestor)	☐	☐	☐
o. Provision of copy services (microform copies of reports etc. for retention by the requestor)	☐	☐	☐
p. Sponsorship of conferences to identify/define critical information needs of specific user audiences	☐	☐	☐
q. Establishment of user audience panels to assist in the design and review of the center's products and services.	☐	☐	☐
r. Holding workshops to train clients in use of existing information systems and/or services.	☐	☐	☐
s. Assembling packets of teaching materials on request	☐	☐	☐
t. Maintaining a loan collection of films and other audio-visual materials related to rehabilitation.	☐	☐	☐
u. Access to a loan collection of books, journals, etc.	☐	☐	☐
v. Translation of materials from foreign languages into English.	☐	☐	☐

SUMMARY OF DATA COLLECTED FROM THE INTERVIEW GUIDE

For purposes of recording and analyzing the data, the interview(ees) were separated into the following five groups:

Group No.	Personnel in:	No. Interviewed
I	RSA Washington office; other Federal agencies (administrators)	20
II	RSA regional offices (administrators)	3
III	State vocational rehabilitation agencies (administrators & practitioners)	15
IV	RSA-funded special centers (research & training centers, etc.) (researchers & practitioners)	19
V	Private associations (administrators)	7

II.1 and 2 Activities and Interests

Section II was intended to give the team an overview of the professional functions and interests of interviewees. Generally, administrators in their work dealt with a broad range of rehabilitation areas, frequently including all those listed. The work of practitioners tended to focus on rehabilitation areas such as physical handicaps or developmental disabilities, with overlap into a variety of related problems, such as medical or emotional disorders, that might affect clients. Researchers may have been involved in a number of areas of rehabilitation, but generally focused on a specific topic in their work, such as alcoholism or a specific medical problem.

III.1 Means of communication (conversation, print, nonprint, papers heard at meetings)

For all groups, *print* materials were considered the major means of receiving information with *conversation* with colleagues and other professionals a close second. For all groups, the least useful means was nonprint materials such as films, TV, computer-assisted learning. The difference in usage ratio between print and nonprint for all groups was at least three to one.

III.2 General category of literature used

For groups I, III-V *including* researchers, that category of literature listed as "Professional Rehabilitation Literature" was the most frequently consulted in the course of the individual's professional work. The next most frequently consulted literature, "Social sciences," was indicated at less than half the frequency of "professional rehabilitation" usage. A close third and fourth were "biological, medical" literature and "management or business" literature.

For group II, regional RSA personnel, "management" and "social science" literature were used with greatest frequency with "professional rehabilitation literature" a close second.

III.3 Forms of published information

The least used form for *all* groups was either computerized data bases (for RSA Federal and regional personnel and private sector) or custom-tailored information packages (for RSA Federal personnel, researchers, and State personnel). Both "State of the art" reports and "Information packages tailored to your needs" were frequently cited by all groups as being highly desirable but presently unavailable.

For the most heavily used forms of published information, there was considerable variation from group to group. RSA central office and other Federal personnel most frequently cited journals and statistical reports as forms used.

The preference of groups II (RSA regional personnel) and V (private sector) was similar in that there was little range of distinction among forms; all were cited as about equally used by both groups.

State agency personnel (III) cited newsletters and reporting services as most heavily used with "books" a close second. Researchers (IV) most often used "specific articles" and "bibliographies, indexes, and abstracts."

III.4 Types of sources

With sources of published information, as with forms, there was considerable variation in use from group to group. RSA Washington and other Federal personnel relied most heavily on "interagency routing" and "the author or source agency" and least on "specialized clearinghouse" or "a commercial information service." The spread here was decisive - approximately 4 to 1.

State agency personnel relied most heavily on "author or source agency," with "colleagues" and "office collection" close seconds. The least used source by far was a "commercial information service." (5 to 1)

Researchers relied most heavily on "personal subscription or library" or "colleagues," with "office collection" and "in house library" close seconds. Least relied on were "commercial information service" and "private or semi-private association." The spread between most and least used was 3½ to 1.

Private association administrators relied most on their "office collections" and "authors or source agencies" and least on "inter-agency routing" and "other libraries."

III.5-6 Specific sources

In this section, a group of specific sources was given and the interviewee was asked whether he was familiar with a particular source, such as ERIC or NTIS, and if so, whether he currently used it in his work. Responses varied among the groups interviewed, but with several exceptions a general trend did emerge. A majority of respondents in most groups indicated familiarity with at least half the resources listed; but very few, in many cases none, of the individuals used them either because the interviewee felt no need, felt that the material contained was inapplicable to his work, or had no time. The National Technical Information Service, in particular, was not widely used. Comments reflecting dissatisfaction with this resource are incorporated into Part III of the body of the report.

There were several notable exceptions to this pattern. RSA Washington office personnel interviewed nearly all used the HEW Library; however, a majority of these individuals were dissatisfied in some way with this resource. Comments reflected a dissatisfaction with the quantity, currency, relevance, and organization of the literature on rehabilitation and cited the difficulty of physical access to the handicapped individual. The other major exception to the trend was an indicated use by 2/3 of the research personnel interviewed of Medline and of a university medical library.

For all other groups, little, if any, use was made of the other resources listed.

III.7 Other resources

Interviewees were also asked to cite other specific resources which were particularly useful to them. Additional sources most frequently named with the following:

RSA Washington Personnel (I) - The SRS/RIS System
National Easter Seal Library
Materials Development Center (Univ. of Wisconsin - Stout)

State agency personnel (III) - Oklahoma State Clearing House
Univ. of Oklahoma (Norman) RRRI

Research personnel (IV) - Materials Development Center (Stout)
Oklahoma State Clearing House

IV.1 Potential services

Interviewees were asked to identify from the list those information services and products which would be highly useful to them and which could or should be provided by a national center.

For group I (RSA Washington and other Federal administrators), most useful services were 1) c. quick search service, 2) f. "state of the art" summaries, 3) b. abstracts on request, 4) j. list of experts, and 5) u. access to a loan collection of materials. Items cited as least desired were o. microform copies and m. list of funding services.

Group II (RSA regional personnel) cited a number of items as about equally desirable. f. "State of the art" summaries, g. lists of films, and s. packets of teaching materials were most useful; with these services a close second: b. abstracts on request, d. access to a reference collection, n. paper copy service, r. information workshops, and t. a loan collection of films. Least useful items were h. sets of abstracts and v. translations.

Group III (State agency personnel) cited the following services as most useful:

1. c) quick search service
2. b) abstracts on request
3. k) referral service
4. f) "state of the art" summaries
   j) lists of experts
   n) paper copy service

Least desired services were v) translation and p) conferences to identify user information needs.

Group IV (Special centers personnel) most wanted a) bibliographies and b) abstracts on request, f)"state of the art"summaries, and g) lists of films. Cited as least useful were o) microform copies and v) translations.

Group V (Private sector) personnel most desired:

1. c) quick search service
   j) lists of experts
   k) referral service
2. b) abstracts on request
   a) bibliographies on request
   m) lists of funding sources

They cited as least useful o) microform copies, n) paper copies, and r) information workshops.

IV.2 Cost recovery

A large majority of those interviewed in all groups were willing to pay a reasonable cost recovery charge for information materials and services which they felt to be desirable.

IV.3-5 Additional information

Information from these sections was incorporated both into the conduct of the study and the preparation of the final report.

APPENDIX D

LIST OF PARTICIPANTS IN THE WORK SESSION APRIL 18, 1975

GEORGE WASHINGTON UNIVERSITY REHABILITATION RESEARCH AND TRAINING CENTER

Dr. Lester E. Asheim
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Research Utilization Laboratory
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Dr. Arnold Sax
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Materials Development Center
University of Wisconsin--Stout

APPENDIX E

BIBLIOGRAPHIC TOOLS USEFUL IN ASSEMBLING A COLLECTION OF RSA-GENERATED MATERIALS

The bibliographies and indexes listed here provide partial coverage of the literature emanating from RSA and from projects it has supported over the past 55 years. They should prove useful in any attempt to assemble a collection of RSA-generated materials, both in identifying the items to be collected and in providing a basis for organization and retrieval.

APPENDIX E

I. RESEARCH REPORTS AND RELATED PUBLICATIONS

A Guide to the Use of the SRS Research Information System; Instruction Manual. Prepared by the Research Utilization Laboratory, ICD Rehabilitation and Research Center. Edited by the Division of Research Utilization. DHEW, Social and Rehabilitation Service, Office of Research and Demonstrations, Division of Research Utilization, Washington, D. C. 1972. 30 p.

SRS Research Information System Thesaurus. Compiled and edited by Claire K. Schultz for the University City Science Center, Philadelphia. DHEW, Social and Rehabilitation Service, Office of Research and Demonstrations, Division of Research Utilization, Washington, D. C. 1972. 68 p.

SRS Research Information System; Index. A Cumulative Index to Reports of Research and Demonstration Projects Supported by the Social and Rehabilitation Service, 1955-1971. Compiled and edited by Claire K. Schultz for the University City Science Center, Philadelphia. DHEW, Social and Rehabilitation Service, Office of Research and Demonstrations, Division of Research Utilization, Washington, D. C. 1974. 2 v.

Descriptors listed in the SRS/RIS Thesaurus are used here to provide subject access to the 2,220 reports in the system. Abbreviated citations are provided under appropriate descriptors, with additional descriptors listed after the title to give further clues as to the subject scope of the report.

A publication giving full citations, with abstracts, will be issued in 1975. The 2-volume subject index will then serve to provide subject access to that compilation of abstracts as well as to the documents themselves.

Research 1971; An Annotated List of SRS Research and Demonstration Grants, 1955-1971. Prepared by the Research Utilization Branch, Office of Research and Demonstrations. Dorothy G. Jackson, Editor. DHEW, Social and Rehabilitation Service, Washington, D. C. 346 p.

This volume lists projects, not publications. In many cases, however, the project is expressed in the form of a citation to its final report. A final report is not necessarily a descriptive summary of project activity but may instead be a publication, such as a directory or transcript of conference proceddings, which fulfills the project's objectives. The annotations in all cases are actually statements of the project's objectives, not descriptions of resultant publications.

Arrangement of the entries is by source of grant, with some subdivision by broad subject categories. There are report-number and subject indexes. Films are listed together.

Reports and Articles Resulting from Research and Demonstration Projects, a Bibliography, 1968 ed. By John P. Bailey, Jr. and John E. Muthard. University of Florida, Gainesville. 1968. 131 p. (Sponsored by the Social and Rehabilitation Service, Vocational Rehabilitation Administration, Office of Vocational Rehabilitation, U. S. DHEW.)

Rehabilitation Research and Demonstration Projects, 1955-1970; Final Reports and Resultant Publications of Projects Sponsored by the Social and Rehabilitation Service. By Neil S. Dumas and John E. Muthard. University of Florida, Gainesville. 1970. 412 p.

A revision of the bibliography listed immediately above.

An Index to Rehabilitation and Social Service Projects. Vol. II: 1955-1973; Final Reports and Resultant Publication of Projects Sponsored by the Social and Rehabilitation Service. By Linda M. Crocker, John E. Muthard, Eric W. Reinhardt, Sally A. Wells. University of Florida, Gainesville, Fla. April 1973. 218 p.

This volume supplements *Rehabilitation Research and Demonstration Projects, 1955-1970*, adding approximately 3,200 documents which for various reasons were not included in the earlier work. The key word subject index is followed by a bibliography, arranged by project number, which gives a full citation. An author index follows and a fourth section gives project addresses.

The publications listed include both final reports and other publications resulting from R&D projects, as well as a number of publications emanating from R&T Centers and from projects sponsored by SRS elements other than RSA. Funding sources can be identified by use of a key to the project numbers which is given in a prefatory note.

Vocational Rehabilitation Index: 1974; Vocational Rehabilitation Reports Sponsored by the Social and Rehabilitation Service and Articles from Recent Professional Journals. By John E. Muthard. University of Florida, Gainesville, Fla. October 1974. 377 p.

This volume incorporates all the vocational rehabilitation reports listed in the three University of Florida indexes cited above, but excludes certain reports on medical or other specialized topics, such as speech pathology, which were included in the earlier works. Added here is an index to the major vocational rehabilitation journals for the period 1968-1973. The descriptors used are from the SRS/RIS Thesaurus.

The key-word subject index is followed first by a bibliography giving full citations arranged by grant number, and then by an author index to that bibliography. NTIS publication numbers are given in a final section for those reports (totaling 1,050) which could be located in the NTIS system.

II. PUBLICATIONS OF THE REHABILITATION RESEARCH & TRAINING CENTERS

A Composite Bibliography of Publications from Research and Training Centers, 1963-1973. Dr. Frederic J. Kottke, Principal Investigator; Mildred E. Olson, Compiler. Compiled in RT-2. University of Minnesota, Medical Rehabilitation R&T Center, Minneapolis, Minn. June 1973. 172 p.

Only publications emanating from the medical R&T centers are included in this list of 1,896 citations to journal articles. They are arranged by broad subjects (*e.g.*, "arthritis," "behavior," "vocational rehabilitation") which are, in turn, arranged alphabetically. Author index is provided. A list of theses with R&T-center origin is appended.

Publications of the Rehabilitation Research and Training Centers; a Bibliography. Social and Rehabilitation Service, DHEW, Washington, D. C. February 1973. 238 p.

The 1,443 citations listed in this bibliography are primarily to journal articles reporting on research conducted at the R&T Centers during the period 1961 to June 30, 1971. They are largely, but not exclusively, medical in content and are arranged by Center with author and permuted subject indexes provided.

From November of 1971 until June of 1975, this Bibliography was supplemented by quarterly lists of "New Publications" appearing in the newsletter titled *Informer*, which reported on developments at the Special Centers. These lists are arranged alphabetically by author; there is no subject access to them available. In addition, the annual progress reports of the individual R&T Centers have included lists of publications by their personnel.

III. TRAINING RESOURCES

Audiovisual Aids Directory of the Rehabilitation Research and Training Centers. Social and Rehabilitation Service, DHEW, Washington, D. C. September 1973. 196 p.

This directory is "a compilation of information describing audio-visual products developed by the R&T Centers or others which were found useful in training programs and are available . . . on a loan, rental, purchase, or duplication basis." The content of each of the 500 entries is fully described and additional information is given as to producing center, target audience, recommended followup, physical description, and availability. The entries are arranged under the name of the R&T Center which holds the materials. Author, title, and subject indexes are provided.

Training Resources Directory. Continuing Education Program for Rehabilitation: Region 2, State University of New York at Buffalo. n.d. 173 p.

Most, but not all, of the materials listed in this recent volume were produced through programs receiving RSA support. The entries are both descriptive and evaluative. They are divided into two principal sections, one for materials dealing with specific disabilities, the other for those focusing on rehabilitation activities such as counseling, evaluation, or job placement. Books, manuals, films, tapes, filmstrips, worksheets, and testing devices are among the forms included.